GATEWAY CPD15F23

MODEL

SERVICE MANUAL

POWER SAVING FUNCTION

This monitor meets the power saving guidelines set by the EPA Energy Star Program as well as the more stringent TC092 guidelines (NUTEK). It is capable of reduced power consumption when used with a computer equipped with Display Power Management Signaling(DPMS). By sensing the absence of the sync signal coming from the computer, it will reduce the power consumption as follows:

CAUTION: The Power Saving function will automatically put the monitor into Active-off state if the power switch is turned on without any video signal input.Once the horizontal and vertical syncs are sensed, the monitor will automatically return to its Normal operation state.

	State	Power consumption	Required resumption time	⏻ Power indicator	POWER SAVING indicator
1	Normal operation	100%	————	green on	off
2	Suspend (1st step of power saving)	approx. 10%	approx. 3 sec.	green on	orange on
3	Active-off (2nd step of power saving)	approx. 7%	approx. 10 sec.	off	orange on

TIMING SPECIFICATION

Mode	1	2	3	4	5	6
Resolution(H x V)	640 x 480	800 x 600	832 x 624	1024 x 768	1024 x 768	1280 x 1024
Dot Clock(MHz)	25.175	50.000	57.283	65.000	75.000	110.000
Holizontal						
Hor. freq. (kHz)	31.469	48.077	49.727	48.363	56.476	63.983
H-total	31.778	20.800	20.11	20.677	17.707	15.636
H-Front porch	0.635	1.120	0.560	0.369	0.320	0.727
H-Sync width	3.813	2.400	1.110	2.092	1.813	1.018
H-Back porch	1.907	1.280	3.910	2.462	1.920	2.255
H-blanking	6.356	4.800	5.580	4.923	4.053	4.000
H-Active (μsec)	25.422	16.000	14.530	15.754	13.653	11.636
Vertical						
Ver. freq. (kHz)	59.940	72.187	74.550	60.000	70.069	59.940
V-total	525	666	667	806	806	1067
V-Front porch	10	37	1	3	3	1
V-Sync. width	2	6	3	6	6	3
V-Back porch	33	23	39	29	29	37
V-blanking	45	66	43	38	38	43
V-Active (Lines)	480	600	624	768	768	1024
Sync.	External	External	External	External	External	External
H-Polarity	(–)	(+)	(–)	(–)	(–)	(–)
V-Polarity	(–)	(+)	(–)	(–)	(–)	(–)
Scanning mode	Non-Interlace	Non-Interlace	Non-Interlace	Non-Interlace	Non-Interlace	Non-Interlace

SAFETY CHECK-OUT
(US Model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
8. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC Leakage. Check leakage as described below.

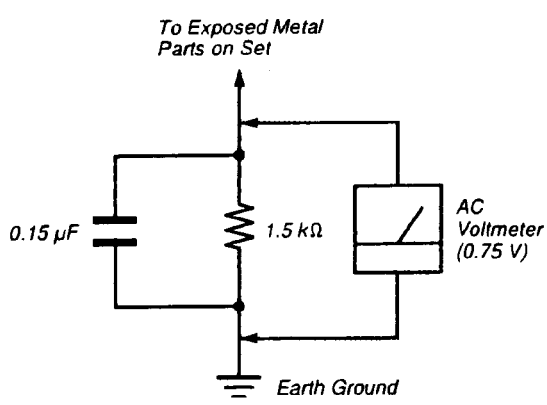


Fig. A. Using an AC voltmeter to check AC leakage.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOMs that are suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

WARNING!!
NEVER TURN ON THE POWER IN A CONDITION IN WHICH THE DEGAUSS COIL HAS BEEN REMOVED.

SAFETY-RELATED COMPONENT WARNING!!
COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL FOR SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

AVERTISSEMENT!!
NE JAMAIS METTRE SOUS TENSION QUAND LA BOBINE DE DEMAGNETISATION EST ENLEVEE.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÈCURITÈ!!
LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHÈMAS DE PRINCIPE, LES VUES EXPLOSÈES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÈCURITÈ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÈRO DE PIÈCE EST INDIQUÈ DANS LE PRÈSENT MANUEL OU DANS DES SUPPLÈMENTS PUBLIÈS PAR SONY. LES RÈGLAGES DE CIRCUIT

TABLE OF CONTENTS

Section	Title	Page
1.	**GENERAL**	
	Getting Started	5
	Adjustments	5
	Entering New Timings	6
2.	**DISASSEMBLY**	
2-1.	Cabinet Removal	7
2-2.	Service Position	7
2-3.	D Board Removal	7
2-4.	Picture Tube Removal	8
3.	**SAFETY RELATED ADJUSTMENT**	9
4.	**ADJUSTMENTS**	10
5.	**DIAGRAMS**	
5-1.	Block Diagrams	13
5-2.	Frame Schematic Diagram	19
5-3.	Circuit Boards Location	21
5-4.	Schematic Diagrams and Printed Wiring Boards	22
(1)	Schematic Diagram of D Board	25
(2)	Schematic Diagram of A Board	29
5-5.	Semiconductors	35
6.	**EXPLODED VIEWS**	
6-1.	Chassis	36
6-2.	Packing Materials	37
7.	**ELECTRICAL PARTS LIST**	38

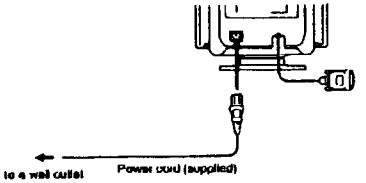
The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

SECTION 1
GENERAL

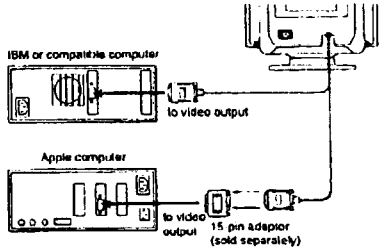
Getting Started

Before using this monitor, please make sure that the following items are included in your package: 15sf monitor (1), power cord (1), warranty card (1) and this operating instruction manual (1).
This monitor will sync with any IBM or compatible system equipped with VGA or greater graphics capability. Although this monitor will sync to other platforms running at horizontal frequencies between 31.5 and 64 kHz, including Macintosh, a cable adaptor is required. Please consult your dealer for advice on which adaptor is suitable for your needs.

Step one: With the monitor switched off, attach the power cord to the monitor and then to the power outlet.



Step two: With the computer switched off, attach the video signal cable to the video card.



Step three: Turn on the monitor and computer.

Step four: If necessary, adjust the user controls according to your personal preference.

The installation of your 15sf is complete. Enjoy your monitor.

Adjustments

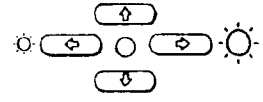
A number of digital controls are provided to allow you to optimize the display parameters to your preferences.

- When the limit value is reached, the POWER SAVING indicator will begin to flash.
- Adjustments will be stored automatically

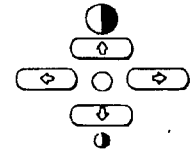
Control Panel

Normal Operation Mode

Brightness



Contrast

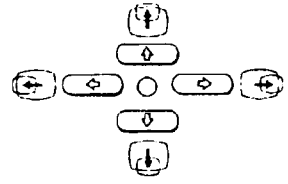


Adjustment Mode

- Select one of the 4 function buttons (CENTER, SIZE, GEOM, COLOR) and adjust as described below.
- The monitor will return to the normal operation mode after 20 seconds.
- You may return immediately to normal operation mode by pressing the illuminated function button a second time.

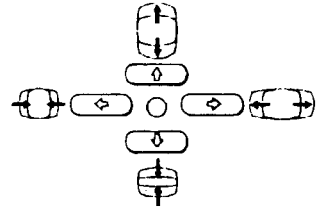
Centering

Press CENTER



Size

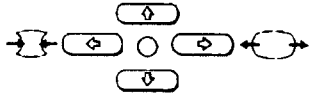
Press SIZE



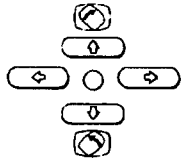
Geometry

Press GEOM

Pincushion



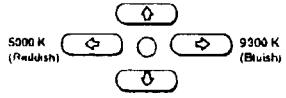
Raster Rotation



Color Temperature

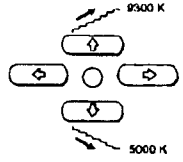
Press COLOR

Preset color temperature



Monitor is initially set to 9300K.

User adjustable color temperature



You can choose between the two factory preset color temperatures or adjust the color temperature to your preferences within a range of 5000 K – 9300 K.
Your most recent adjusted color temperature will be recalled by pressing ◊ or ○ button.

Resetting

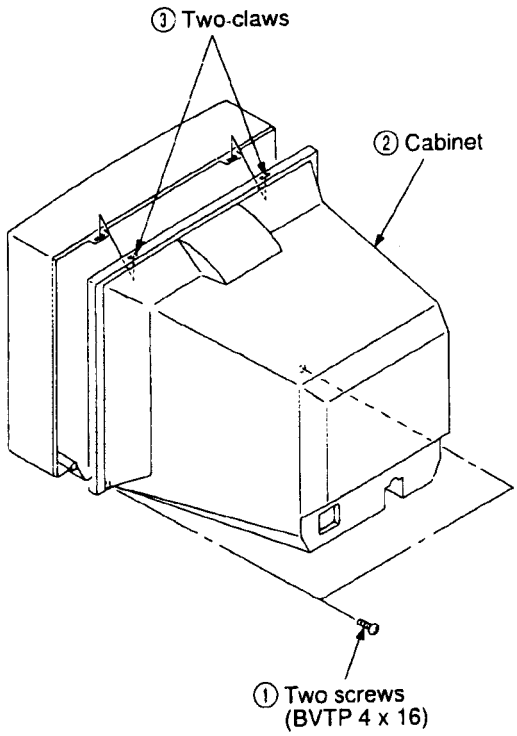
- Press the RESET button to recall the factory settings for brightness, contrast, horizontal and vertical size, center and pincushion for the mode currently in use.
- Press and hold the RESET button for 2 seconds to recall factory setting for all adjustments in all modes

Entering New Timings

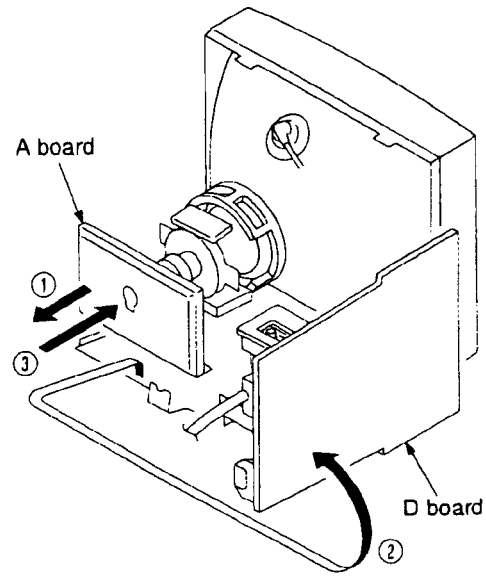
When using a video mode that is not one of the 6 factory preset modes, some fine tuning may be required to optimize the display to your preferences. Simply adjust the monitor according to the preceding adjustment instructions. The adjustments will be stored automatically and recalled whenever that mode is used.
A total of 10 user-defined modes can be stored in memory. If a 11th mode is entered, it will replace the first.

SECTION 2
DISASSEMBLY

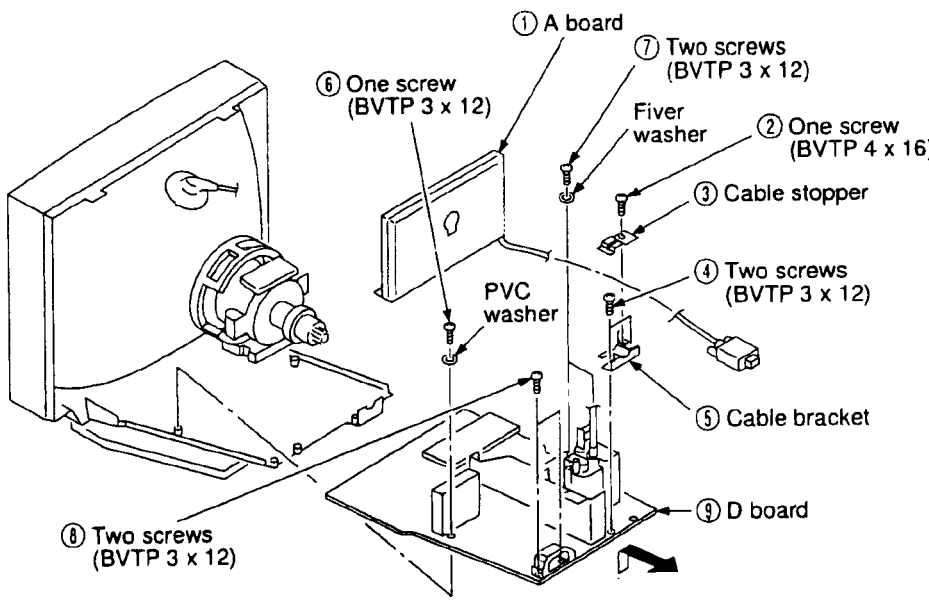
2-1. CABINET REMOVAL



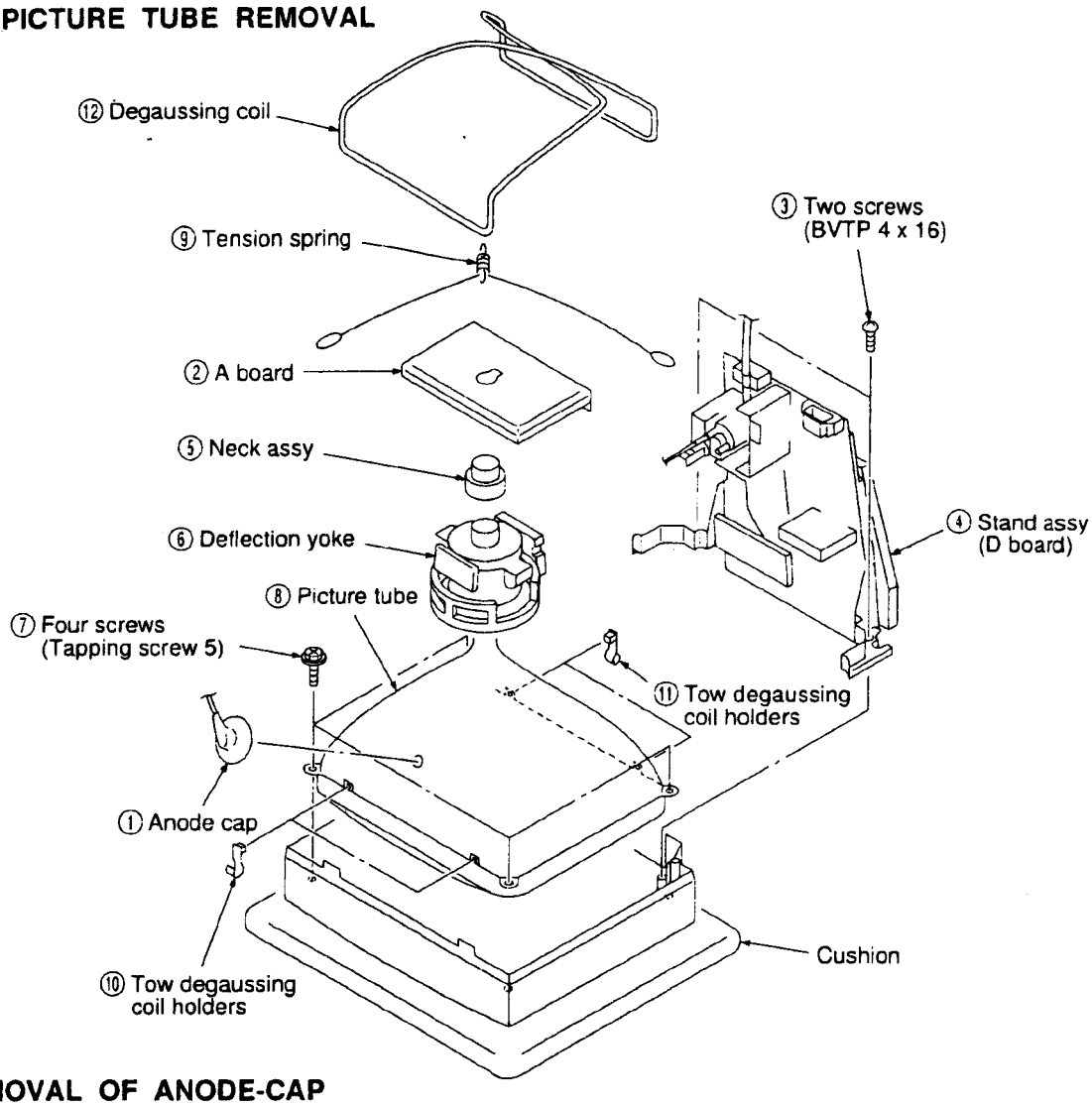
2-2. SERVICE POSITION



2-3. D BOARD REMOVAL



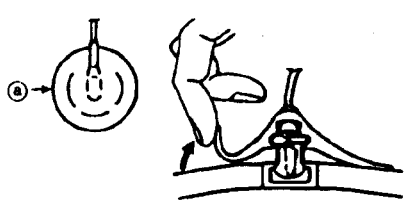
2-4. PICTURE TUBE REMOVAL



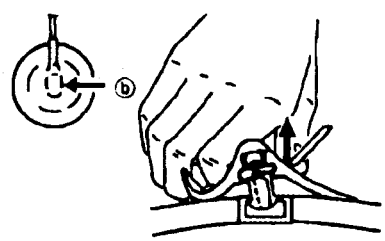
• REMOVAL OF ANODE-CAP

NOTE: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon painted on the CRT, after removing the anode.

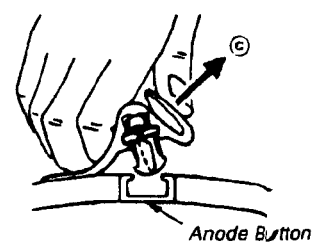
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



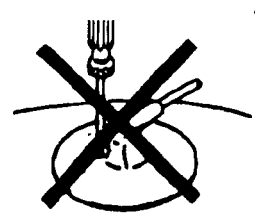
② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.

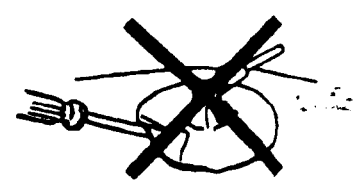


③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with shartp shaped material!
② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.
③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.





SECTION 3
SAFETY RELATED ADJUSTMENT

When replacing or repairing the shown below table, the following operational checks must be performed as a safety precaution against X-rays emissions from the unit.

	Part Replaced (▣)
SCREEN	RV470

	Part Replaced (◪)	
HV Regulator Circuit	D board	IC506, FBT (T501), R457, R475, R485, R487, R509, R512, R610, RV470, C544
HV Hold-Down Circuit	D board	IC501, IC503, Q515, D515, D517, R472, R494, R496, R499, R572, R573, FBT (T501) • Mounted D board
	N board	• Mounted N board
Beam Current Protector Circuit	D board	IC501, IC503, IC512, Q506, D516, D536, R459, R462, R465, R469, R495, R571, R574, R575, R576, R577, R578 • Mounted D board
	N board	• Mounted N board

※ Confirm one minute later turning on the power.

a) HV Hold-Down Check

1) Input 41.75 ± 0.25 V DC to Cathode of D515 from external power supply to check that the raster goes out.

b) Beam Protector Check

1) Confirm that the raster appears on the CRT screen.
2) Short between pin ⑥ of IC 503 and GND further short between R495, R465 and GND.
3) Using an external DC power supply, apply the voltage shown below between pin ⑧ of FBT and GND, and confirm that the voltage of the pin ⑤ of IC503 is within the voltage range shown below.

   Input voltage 4.65 ± 0.05 V DC
   Check condition less than 2 V DC

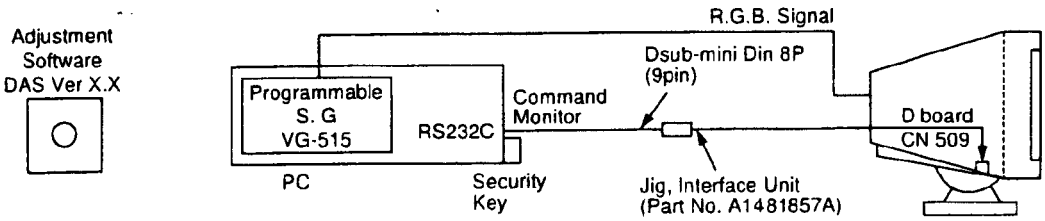
c) +B Regulator Check

1) Input cross-hatch signal.
2) Minimize contrast and bright.
3) Check that the voltage at pin ⑥ of CN505 is 141 ± 2 V DC.

For Service Manuals
MAURITRON SERVICES
8 Cherry Tree Road, Chinnor
Oxfordshire, OX9 4QY.
Tel (01844) 351694
Fax (01844) 352554
email:- mauritron@dial.pipex.com

SECTION 4
ADJUSTMENTS

Connect the communication cable of the computer to the connector located on the D board on the monitor. Run the service software and then follow the instruction.



● H.CENT Adjustment

(This should be performed before Convergence Adjustment.)

1) Receive the picture with maximum frequency. (Dot signal)
2) Adjust "BRT" to "255", "H.SIZE" to "−127" and "H.SHIFT" to "127". (CENTER)
3) Select the minimum point of right and left difference of the raster at connector switch (CN506, CN514). Then fine adjust H.CENT at switch (S500).

※ Connector inserting change : Correction direction change-over.
※ Switch change-over : Correction distance change-over.

● BEAM LANDING Adjustment

Preparation

- Face the PICTURE TUBE to east or west so as not to be influenced by magnetic force.
- Turn ON the POWER switch, and degauss the entire screen with degausser.

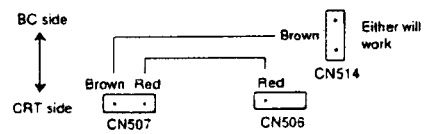
1) Receive a signal of 768 LINE (f_H = 48.7 kHz) with signal generator.
2) Set purity controls to center position.
3) Switch over the signal generator to green.
4) Move the deflection yoke backward, and adjust purity magnet so that the green on the screen to become in the center of screen.
5) Move the deflection yoke forward, and adjust with so that the entire screen to become green entirely.
6) Switch over the signal to blue and green, and confirm the condition.
7) When landing at the corners is not right. correct by using the magnet.

☆ Polarity Change-over

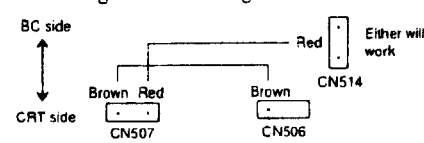
(Raster swings by changing CN506 and CN514)

< Top View of the board >

In moving raster to the left.



In moving raster to the right.

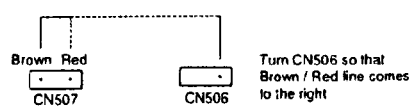


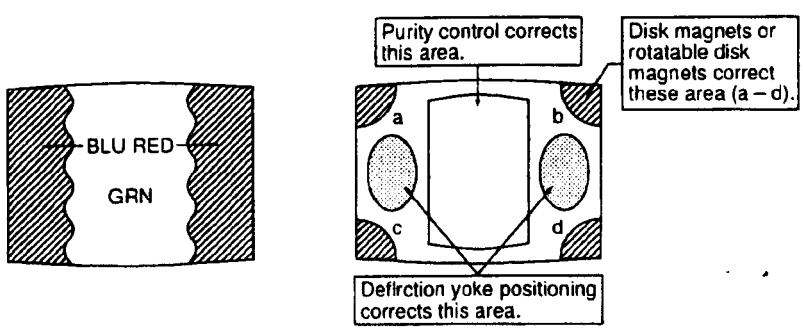
The correction size switches at S500.

☆ No Correction

(Turn CN506 when raster right-left correction is hot necessary.)

< Top View of the board >

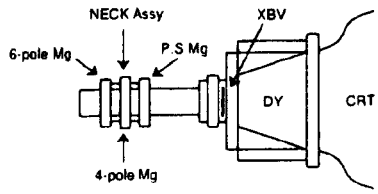




● Convergence Adjustment

※ Set DY four-pole magnet to mechanical center before adjustment.

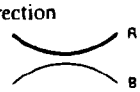
※ This should be prime mode.



1) Receive R.B. cross-hatch.
2) Adjust H.STAT and V.STAT at four-pole magnet.
3) Receive White cross-hatch.
4) Adjust HMC and VMC at six-pole magnet.
5) Receive R.B. cross-hatch.
6) Adjust XBV at DY four-pole magnet.

XBV Correction

a) When



1. Open DY four-pole. (Do not move H.STAT)
2. Re-adjust H.STAT with four-pole at NECK Ass'y.

b) When

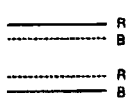
1. Close DY four-pole. (Do not move H.STAT)
2. Re-adjust V.STAT with four-pole at NECK Ass'y.

7) Repeat the above procedure so that R.G.B. will be on X. Y axis.
8) Adjust H.TILT by swinging the DY neck right and left.
9) Adjust XCV with XCV core.

XCV movement

10) Adjust V.TILT with TLV VR.

TLV movement

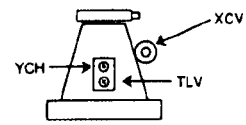


11) Adjust Y.CLOTH with YCH VR.

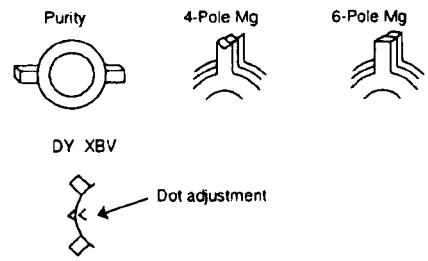
YCH movement

12) Paint lock the four-, six-pole Mg.

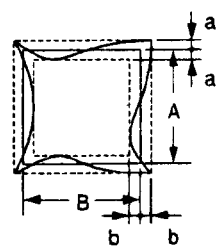
< VR Adjustment on DY >



< Zero Position NECK Ass'y >



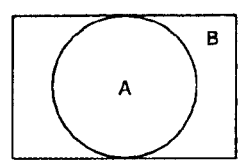
● Vertical and Horizontal Position and Size Specification



a < 2.5mm
b < 2.5mm

A	B
202	270

● Convergence Specification

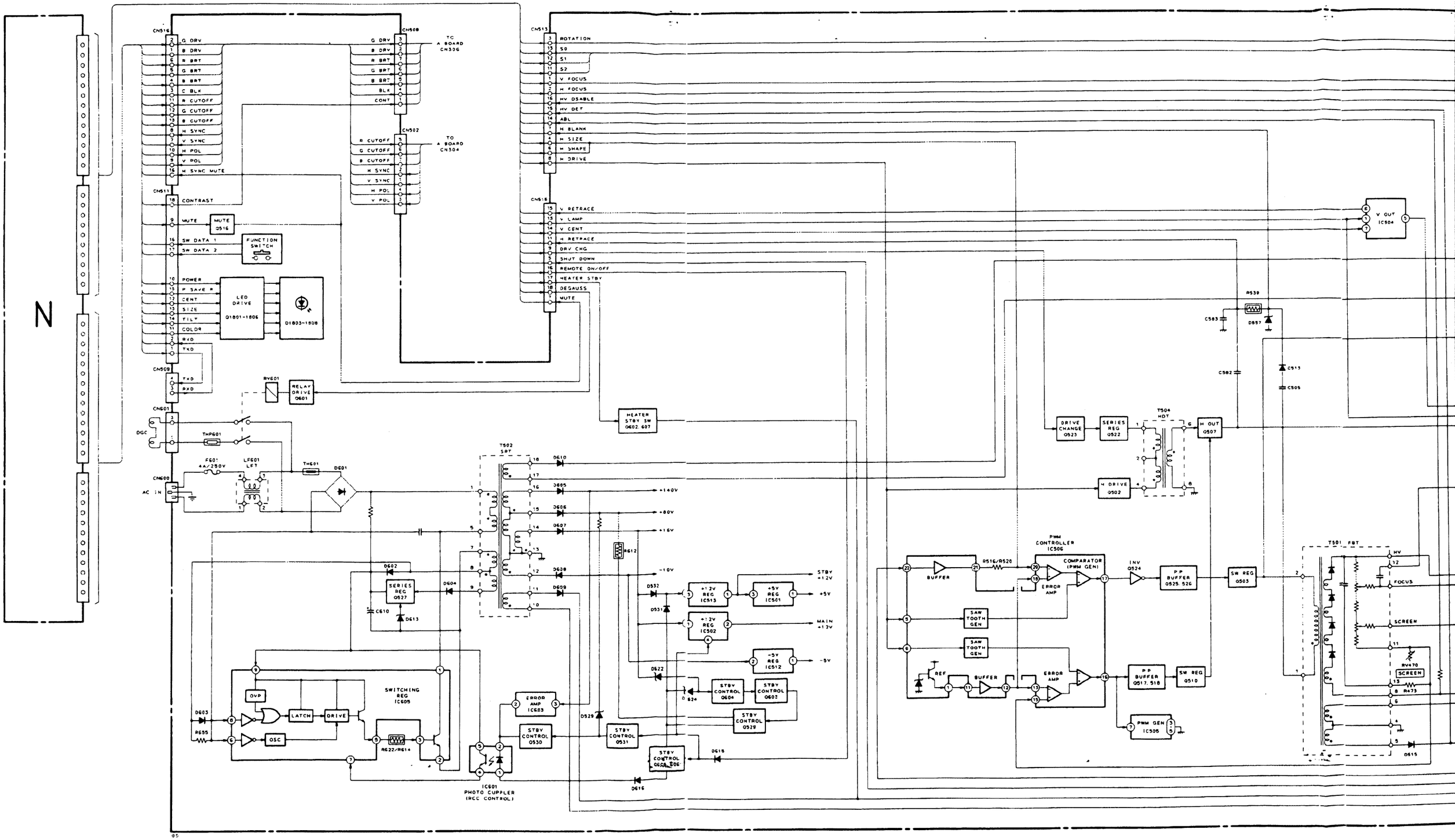


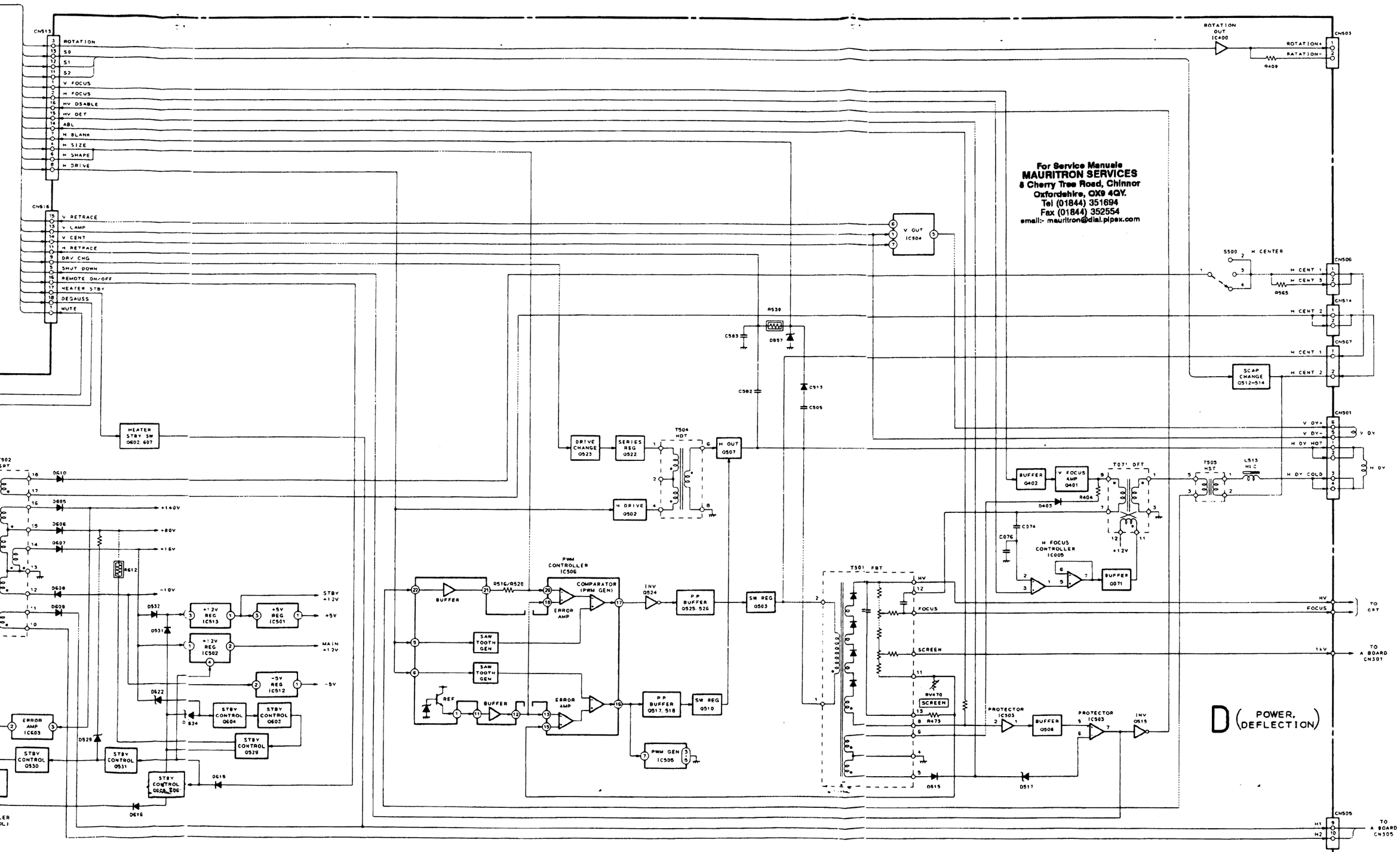
a ≦ 0.30mm
b ≦ 0.35mm

MEMO

SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAMS





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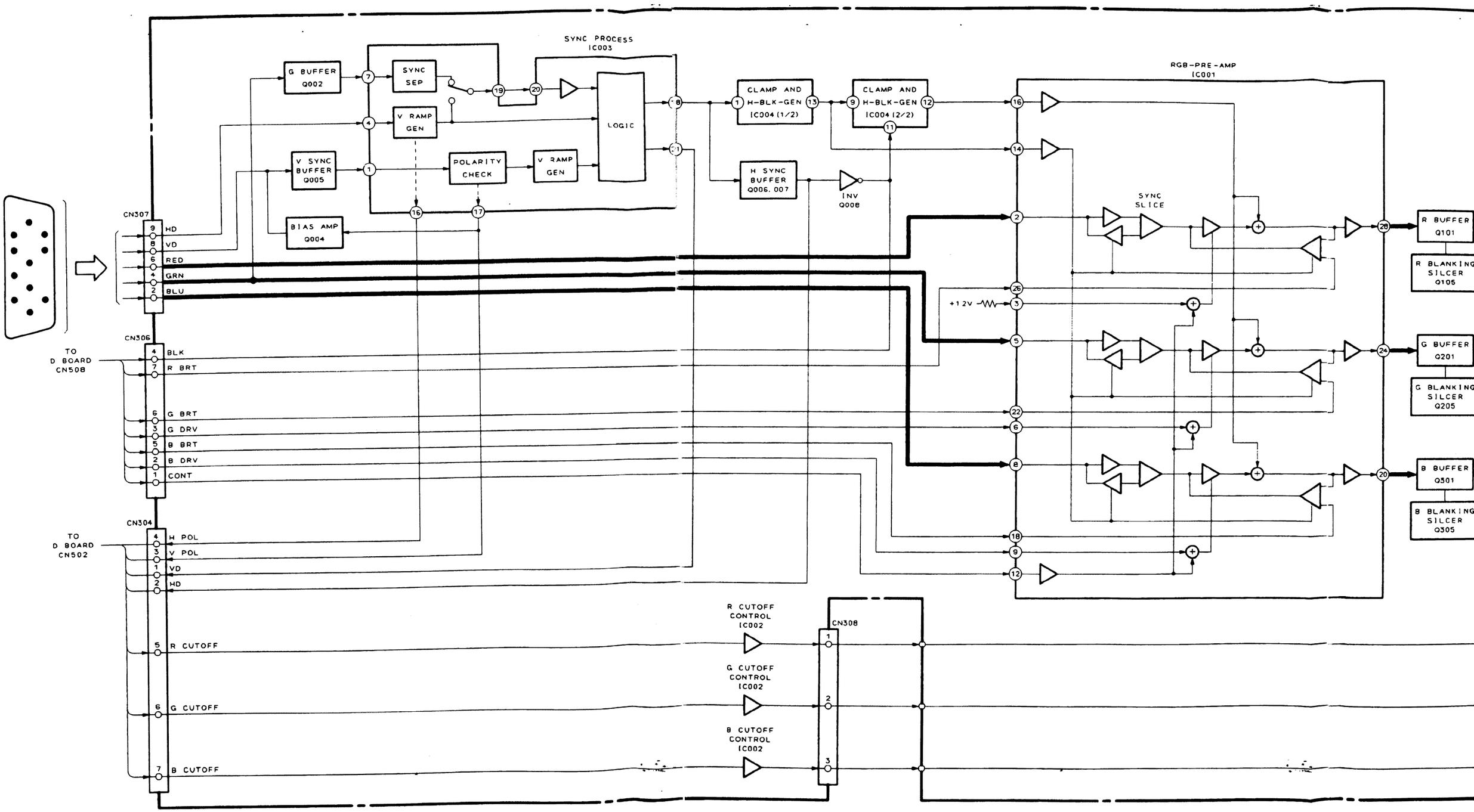
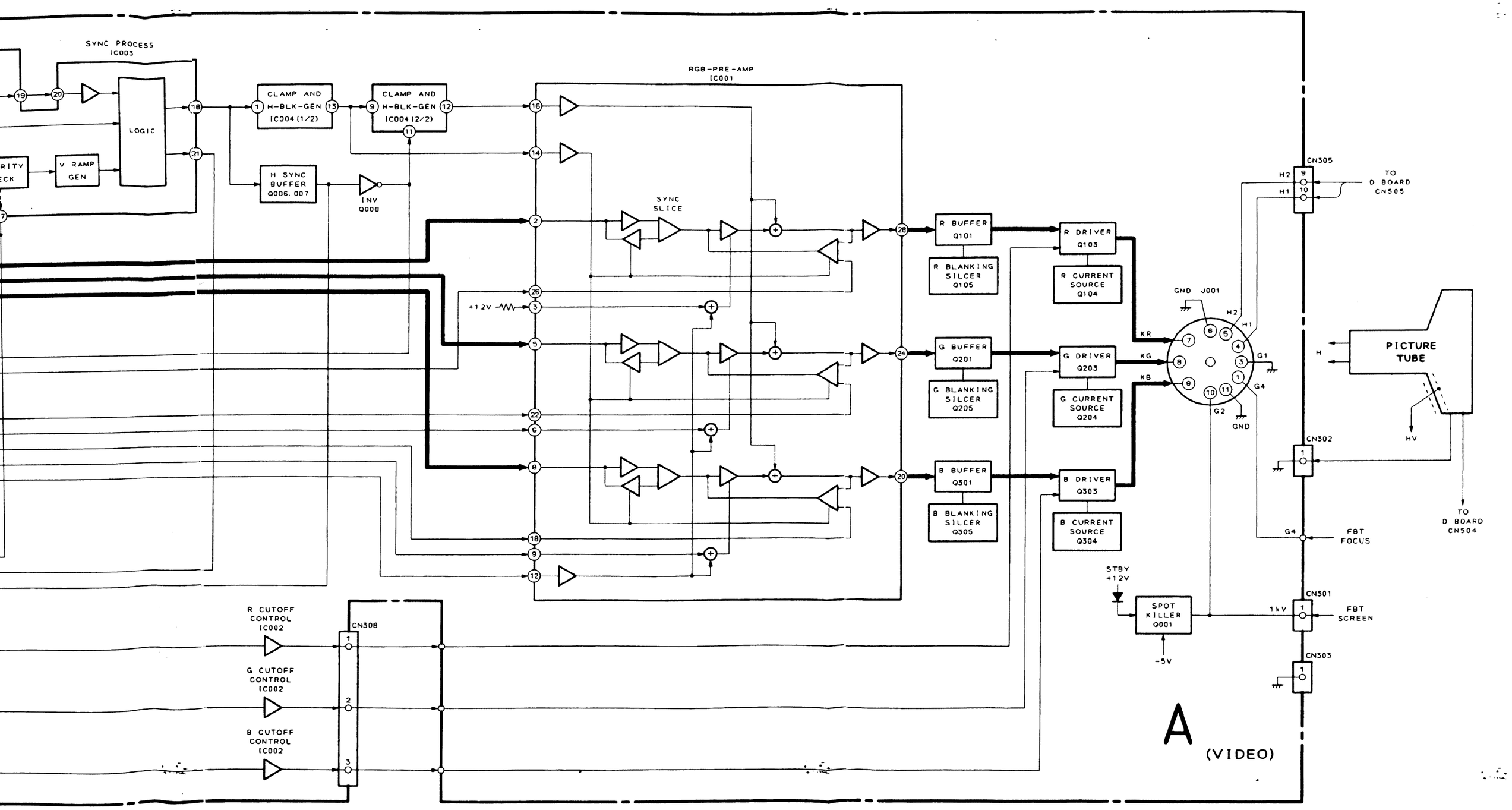
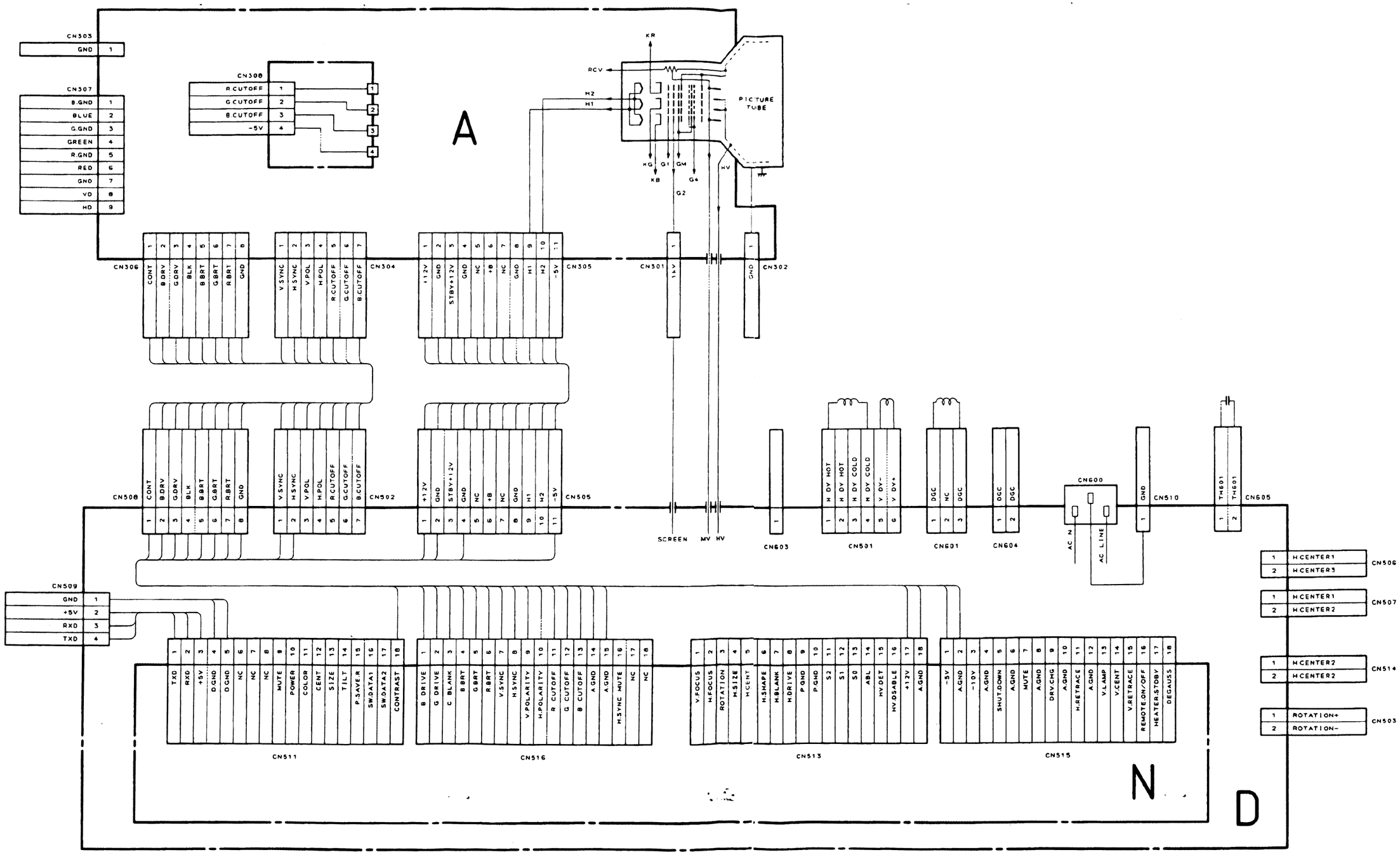
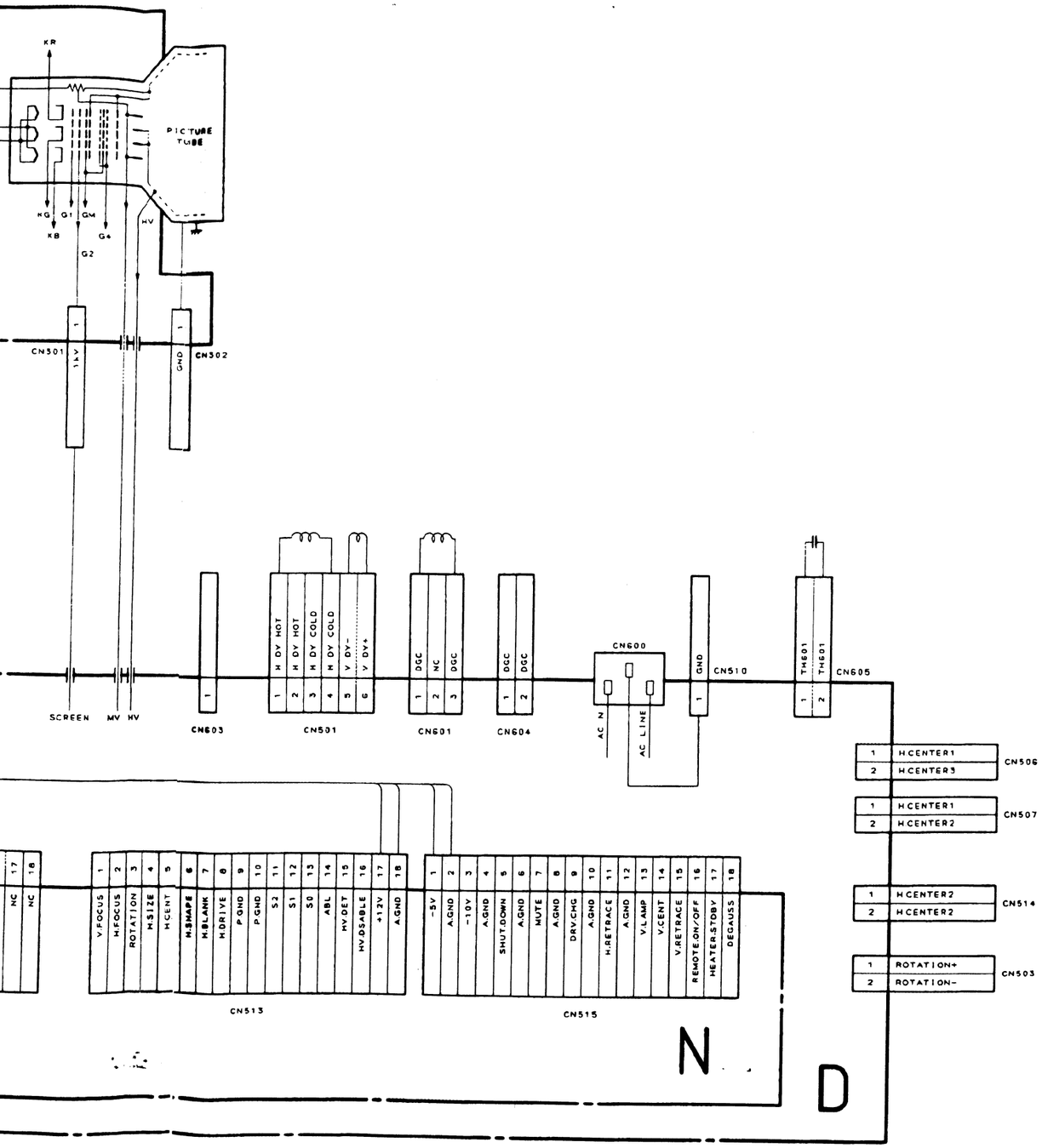
CPD-15SF1 CPD-15SF1



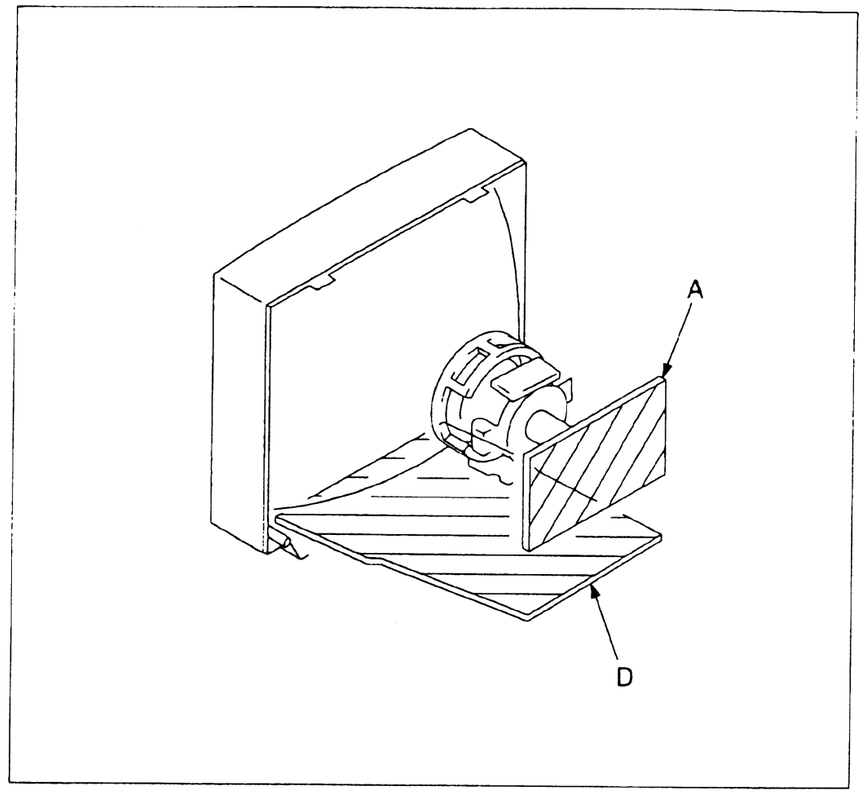

SYNC PROCESS
IC003
LOGIC
V RAMP GEN
CLAMP AND H-BLK-GEN IC004 (1/2)
CLAMP AND H-BLK-GEN IC004 (2/2)
H SYNC BUFFER Q006, 007
INV Q008
RGB-PRE-AMP
IC001
SYNC SLICE
+12V
R BUFFER Q101
R BLANKING SILCER Q105
R DRIVER Q103
R CURRENT SOURCE Q104
G BUFFER Q201
G BLANKING SILCER Q205
G DRIVER Q203
G CURRENT SOURCE Q204
B BUFFER Q301
B BLANKING SILCER Q305
B DRIVER Q303
B CURRENT SOURCE Q304
CN305
H2
H1
TO D BOARD CN505
GND J001
KR
KG
KB
G1
G4
G2
GND
PICTURE TUBE
H
HV
CN302
TO D BOARD CN504
G4
FBT FOCUS
STBY +12V
SPOT KILLER Q001
1kV
CN301
FBT SCREEN
-5V
CN303
R CUTOFF CONTROL IC002
G CUTOFF CONTROL IC002
B CUTOFF CONTROL IC002
CN308
A
(VIDEO)

5-2. FRAME SCHEMATIC DIAGRAM





5-3. CIRCUIT BOARDS LOCATION



CPD-15SF1 CPD-15SF1

5-4. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytic.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4 W (CHIP : 1/10 W)

- All resistors are in ohms.
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- : panel designation, and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⊥ : earth-ground.
- ⏚ : earth-chassis.
- The components identified by ⊠ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪, make the necessary adjustments indicated. (See page 9)
- When replacing the part in below table, be sure to perform the related adjustment.

Part replaced (⊠)	
RV470	SCREEN

Part replaced (◪)		
D board	IC506, FBT (T501), R457, R475, R485, R487, R509, R512, R810, RV470, C544	HV Regulator Circuit
D board N board	IC501, IC503, Q515, D515, D517, R472, R494, R496, R499, R572, R573, FBT (T501) • Mounted D board • Mounted N board	HV Hold-Down Circuit
D board N board	IC501, IC503, IC512, Q506, D518, D536, R459, R462, R465, R469, R495, R571, R574, R575, R576, R577, R578 • Mounted D board • Mounted N board	Beam Current Protector Circuit

- All voltages are in V.
- Readings are taken with a 10 MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be notec due to normal production tolerances.
- * : Can not be measured.
- Circled numbers are waveform references.
- ▬▬ : B + bus.
- ▬ ▬ ▬ : B − bus.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

• D BOARD

IC		DIODE		D612	G – 4
IC005	B – 5	D071	A – 5	D613	E – 4
IC400	E – 7	D072	A – 3	D614	E – 8
IC501	G – 9	D075	B – 5	D616	G – 9
IC502	E – 7	D076	A – 9	D617	G – 8
IC503	F – 8	D077	B – 9	D618	G – 3
IC504	B – 6	D401	D – 6	D619	G – 9
IC505	E – 8	D402	C – 5	D620	E – 6
IC506	E – 9	D403	B – 4	D621	G – 8
IC512	E – 6	D501	C – 3	D622	G – 9
IC513	F – 9	D502	B – 6	D623	G – 8
IC601	E – 4	D503	E – 7	D624	G – 9
IC603	E – 5	D504	D – 1	D625	F – 5
IC605	F – 5	D505	D – 1	D627	B – 5
		D508	D – 5	D628	G – 8
TRANSISTOR		D512	A – 6	D1803	D – 9
Q401	B – 4	D513	D – 1	D1804	B – 9
Q402	B – 5	D514	D – 1	D1805	C – 9
Q502	D – 6	D515	B – 1	D1806	G – 10
Q503	D – 1	D516	C – 1	D1807	G – 10
Q506	F – 8	D517	B – 1	D1808	A – 9
Q507	D – 4	D518	B – 1		
Q510	D – 3	D520	B – 9	VARIABLE RESISTOR	
Q512	C – 6	D522	C – 7		
Q513	C – 7	D523	C – 6	RV470	A – 1
Q514	B – 7	D525	A – 6		
Q515	C – 9	D529	F – 8		
Q516	B – 8	D530	E – 6		
Q517	D – 7	D531	F – 9		
Q518	D – 7	D532	F – 9		
Q522	D – 7	D533	F – 9		
Q523	C – 9	D534	G – 9		
Q524	E – 8	D535	G – 9		
Q525	D – 9	D536	F – 8		
Q526	D – 9	D537	F – 8		
Q527	E – 5	D538	F – 9		
Q529	G – 8	D539	F – 8		
Q530	F – 9	D540	B – 9		
Q531	F – 9	D541	A – 9		
Q601	G – 6	D542	B – 9		
Q602	G – 9	D543	E – 9		
Q603	G – 9	D544	E – 9		
Q604	G – 9	D557	C – 1		
Q605	G – 9	D601	F – 3		
Q606	F – 9	D602	F – 5		
Q607	G – 8	D603	F – 4		
Q1801	G – 10	D604	F – 5		
Q1802	G – 9	D605	G – 7		
Q1803	C – 9	D606	G – 7		
Q1804	B – 9	D607	F – 7		
Q1805	B – 9	D608	F – 6		
Q1806	A – 9	D609	E – 6		
		D610	G – 6		
		D611	E – 8		

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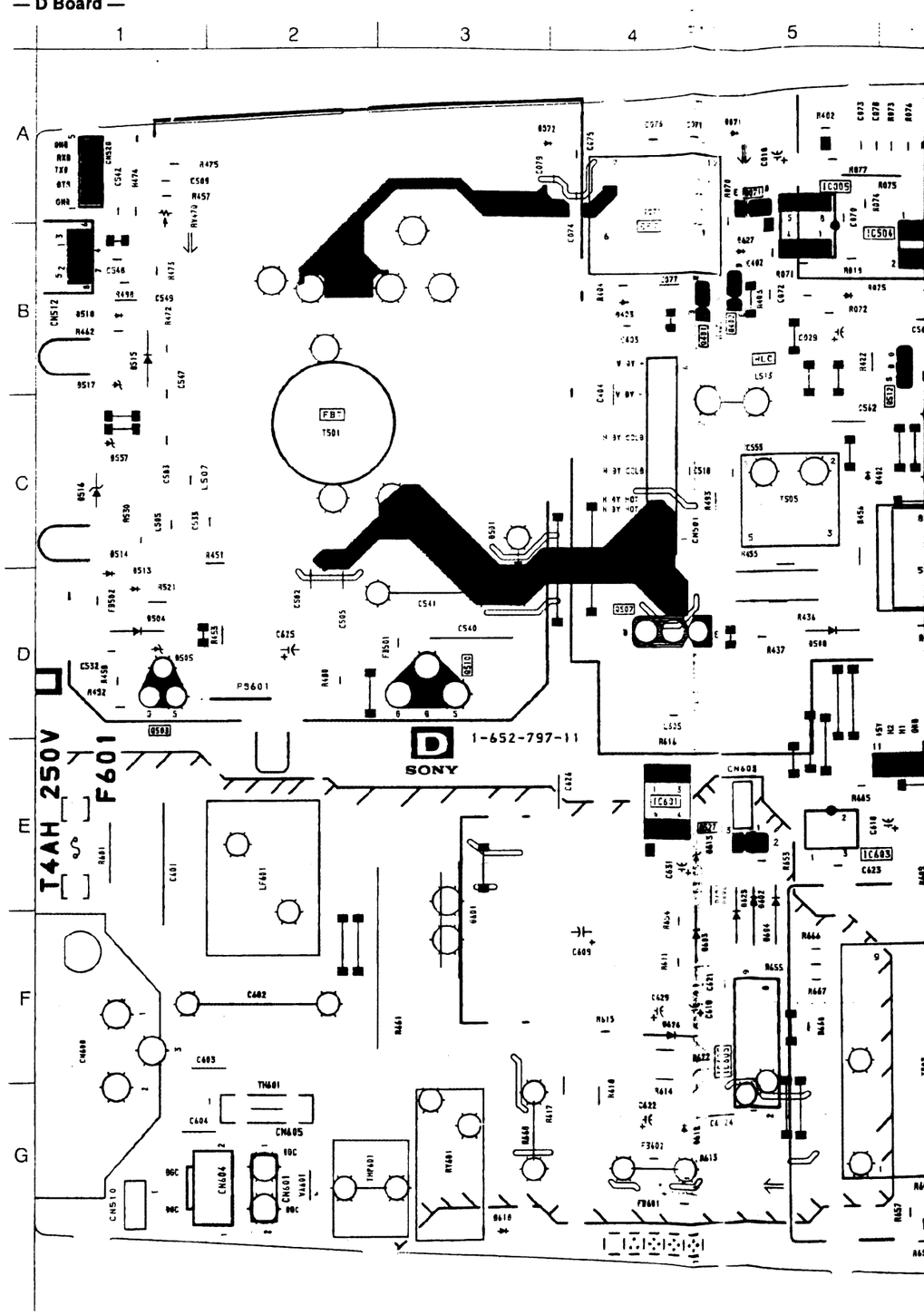
— D Board —

D [POWER DEFLECTION]

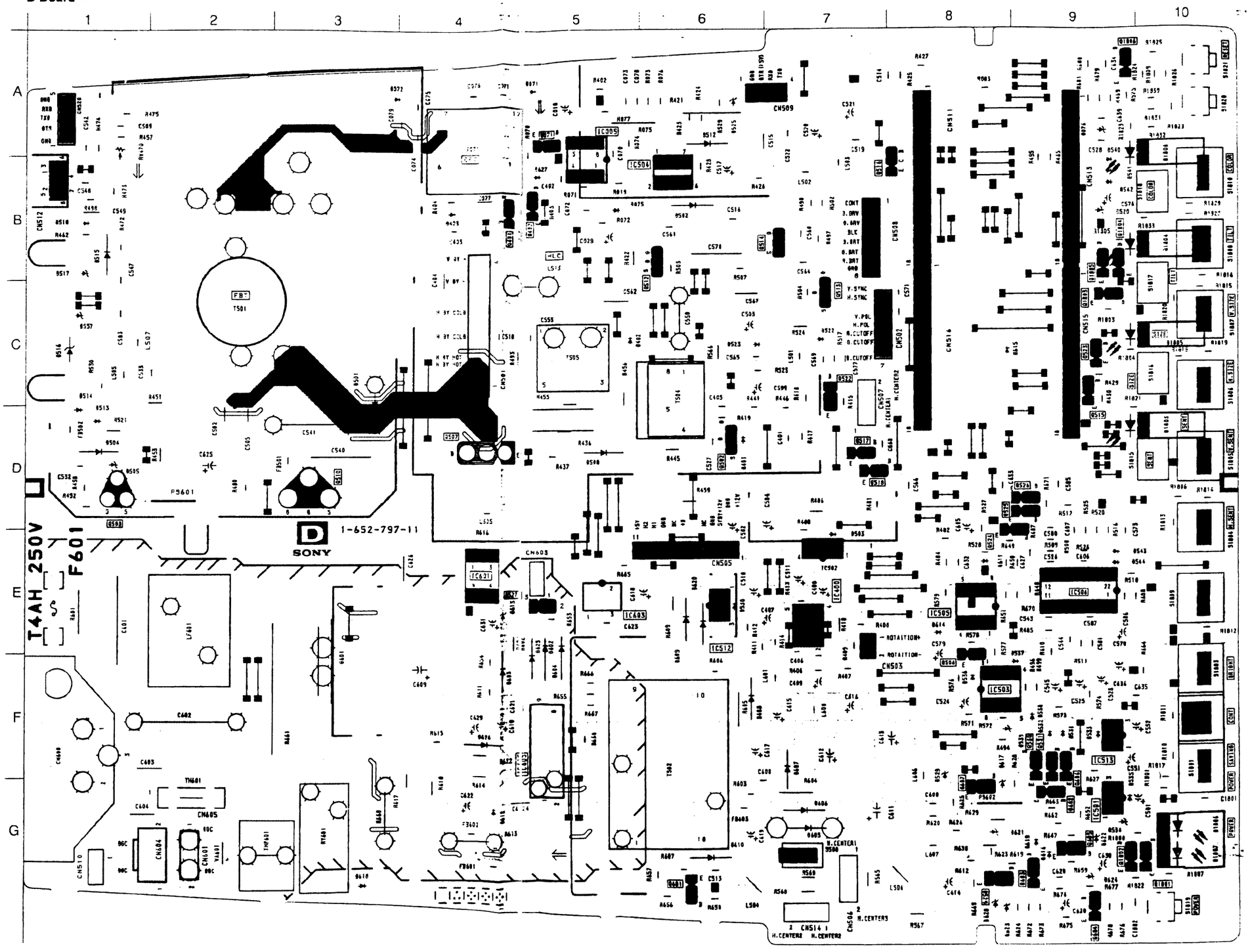


D [POWER DEFLECTION]

• D BOARD

IC		DIODE		D612	G – 4
IC005	B – 5	D071	A – 5	D613	E – 4
IC400	E – 7	D072	A – 3	D614	E – 8
IC501	G – 9	D075	B – 5	D616	G – 9
IC502	E – 7	D076	A – 9	D617	G – 8
IC503	F – 8	D077	B – 9	D618	G – 3
IC504	B – 6	D401	D – 6	D619	G – 9
IC505	E – 8	D402	C – 5	D620	E – 6
IC506	E – 9	D403	B – 4	D621	G – 8
IC512	E – 6	D501	C – 3	D622	G – 9
IC513	F – 9	D502	B – 6	D623	G – 8
IC601	E – 4	D503	E – 7	D624	G – 9
IC603	E – 5	D504	D – 1	D625	F – 5
IC605	F – 5	D505	D – 1	D627	B – 5
		D508	D – 5	D628	G – 8
TRANSISTOR		D512	A – 6	D1803	D – 9
Q401	B – 4	D513	D – 1	D1804	B – 9
Q402	B – 5	D514	D – 1	D1805	C – 9
Q502	D – 6	D515	B – 1	D1806	G – 10
Q503	D – 1	D516	C – 1	D1807	G – 10
Q506	F – 8	D517	B – 1	D1808	A – 9
Q507	D – 4	D518	B – 1		
Q510	D – 3	D520	B – 9	VARIABLE RESISTOR	
Q512	C – 6	D522	C – 7	RV470	A – 1
Q513	C – 7	D523	C – 6		
Q514	B – 7	D525	A – 6		
Q515	C – 9	D529	F – 8		
Q516	B – 8	D530	E – 6		
Q517	D – 7	D531	F – 9		
Q518	D – 7	D532	F – 9		
Q522	D – 7	D533	F – 9		
Q523	C – 9	D534	G – 9		
Q524	E – 8	D535	G – 9		
Q525	D – 9	D536	F – 8		
Q526	D – 9	D537	F – 8		
Q527	E – 5	D538	F – 9		
Q529	G – 8	D539	F – 8		
Q530	F – 9	D540	B – 9		
Q531	F – 9	D541	A – 9		
Q601	G – 6	D542	B – 9		
Q602	G – 9	D543	E – 9		
Q603	G – 9	D544	E – 9		
Q604	G – 9	D557	C – 1		
Q605	G – 9	D601	F – 3		
Q606	F – 9	D602	F – 5		
Q607	G – 8	D603	F – 4		
Q1801	G – 10	D604	F – 5		
Q1802	G – 9	D605	G – 7		
Q1803	C – 9	D606	G – 7		
Q1804	B – 9	D607	F – 7		
Q1805	B – 9	D608	F – 6		
Q1806	A – 9	D609	E – 6		
		D610	G – 6		
		D611	E – 8		

— D Board —



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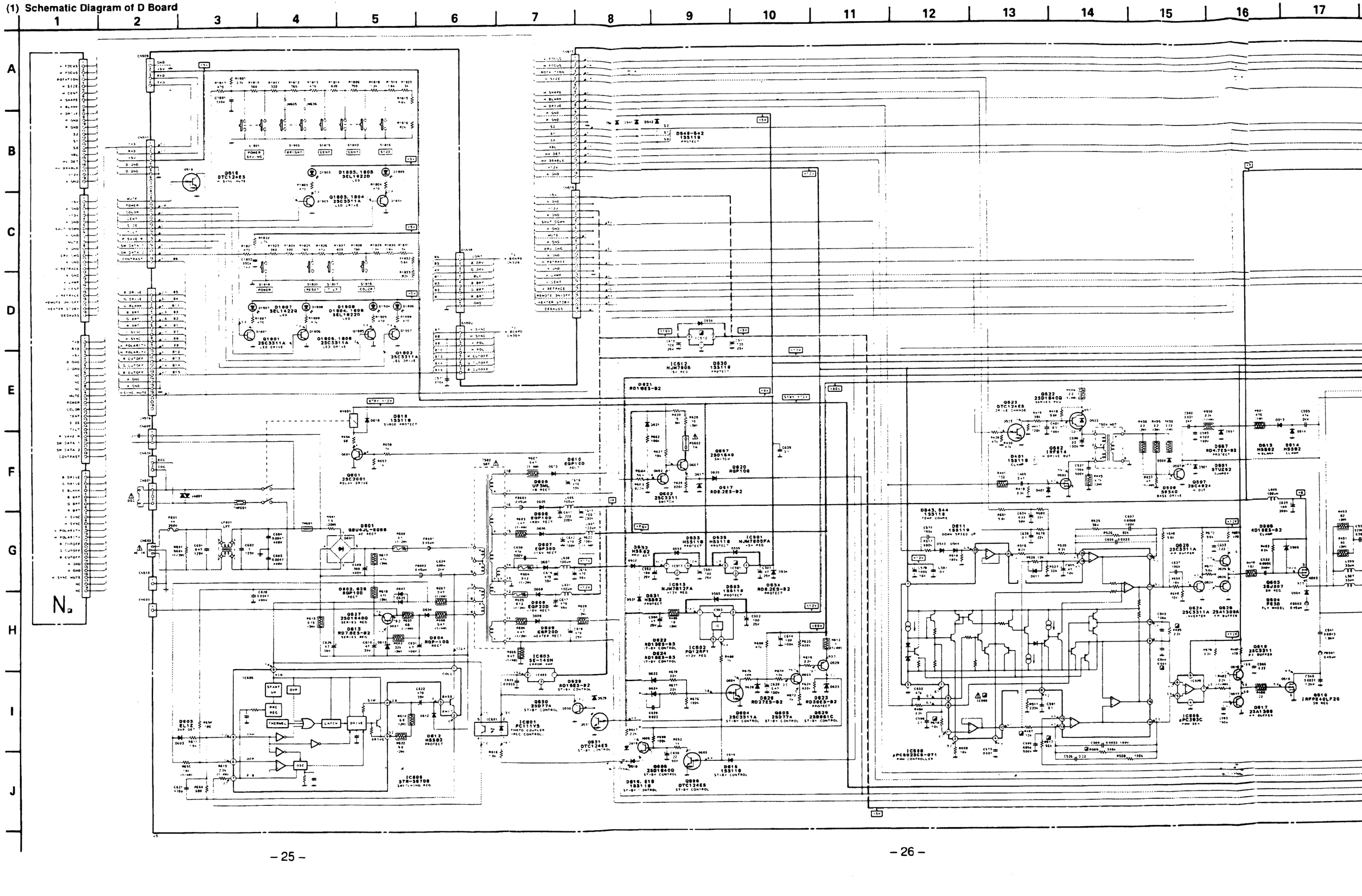
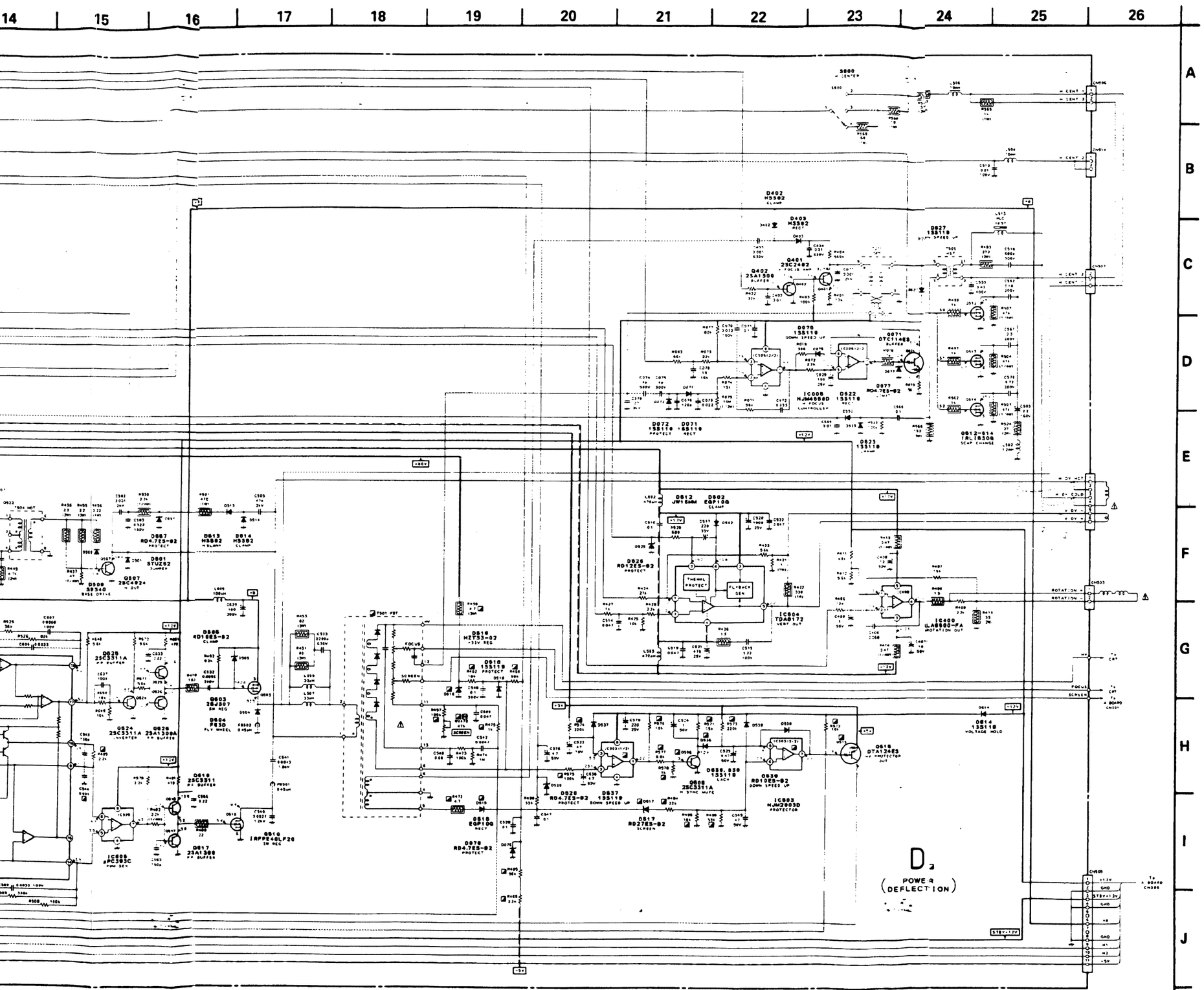
(1) Schematic Diagram of D Board





D BOARD WAVEFORMS

C 100 Vp-p (H)	2 80.0 Vp-p (H)
3 1.5 Vp-p (V)	4 50.0 Vp-p (V)
5 10.0 Vp-p (H)	

(2) Schematic Diagram of A Board

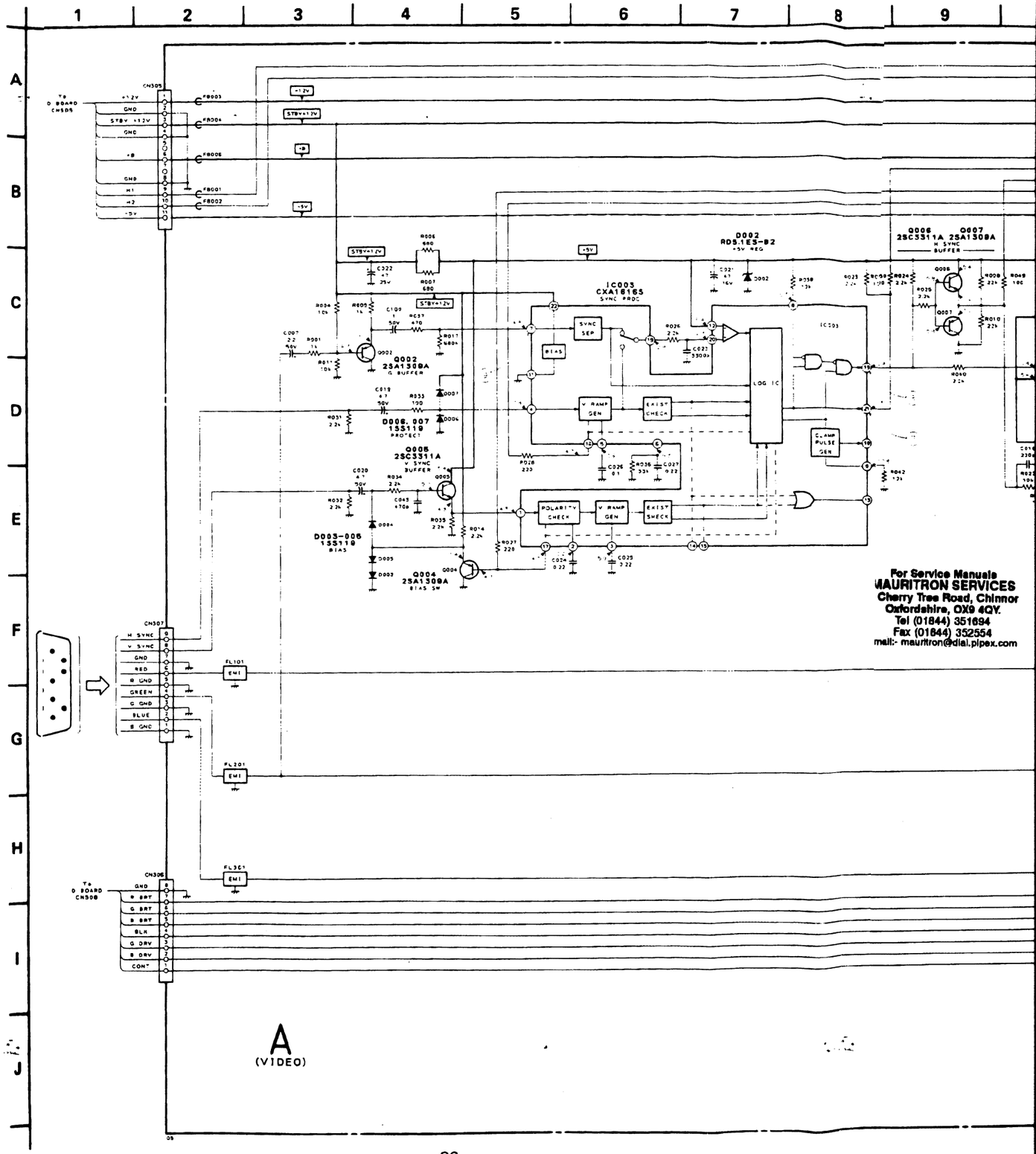
A BOARD WAVEFORMS

① 0.5 Vp-p(H)	② 3.9 Vp-p(H)	③ 0.5 Vp-p(H)
④ 3.8 Vp-p(H)	⑤ 0.7 Vp-p(H)	⑥ 3.8 Vp-p(H)
⑦ 5.0 Vp-p(H)	⑧ 0.12 Vp-p(H)	⑨ 0.7 Vp-p(H)
⑩ 43.0 Vp-p(H)	⑪ 43.0 Vp-p(H)	⑫ 43.0 Vp-p(H)

Schematic diagram

← D board

CPD-15SF1



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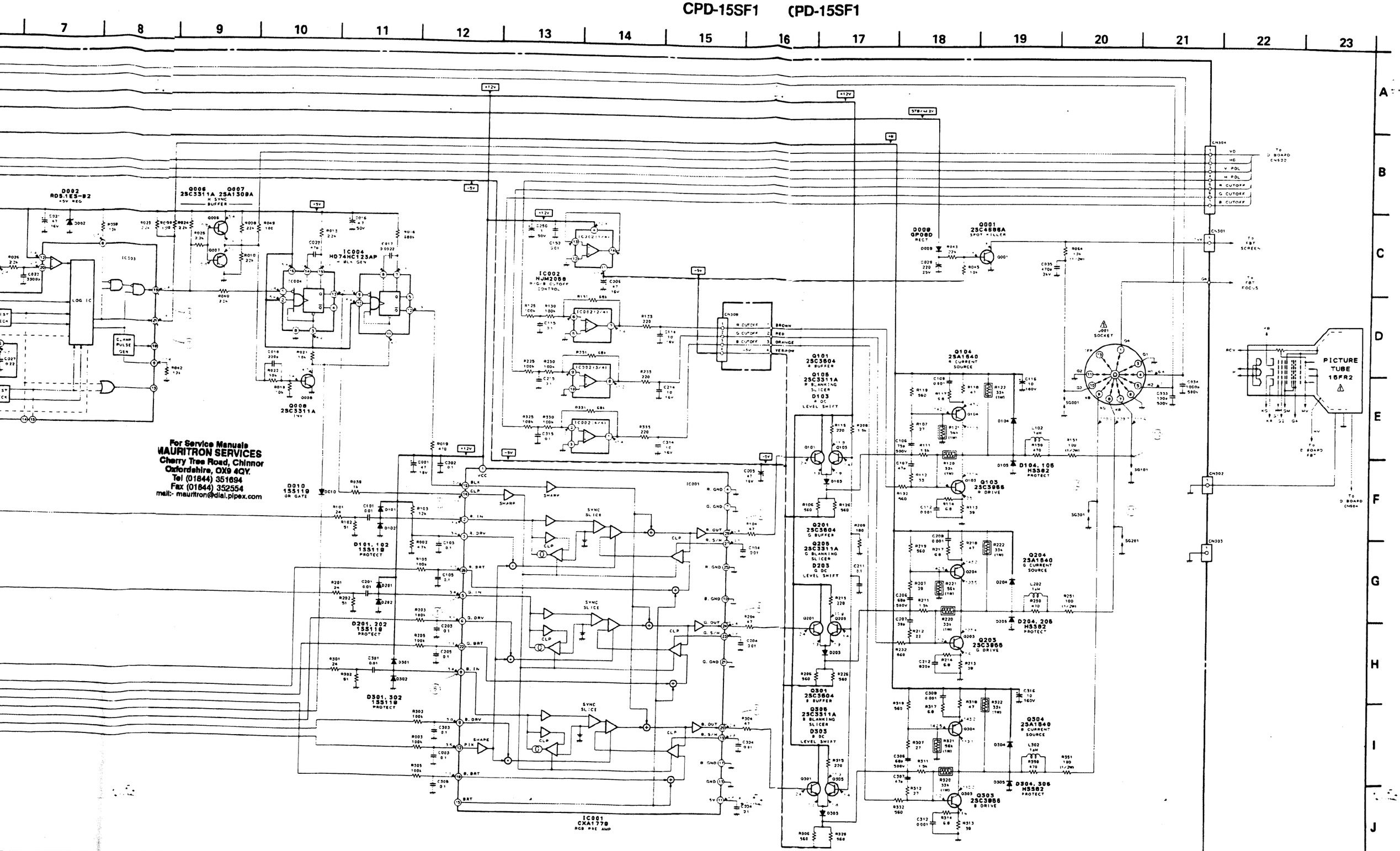
Schematic diagram

A board →



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A [VIDEO]

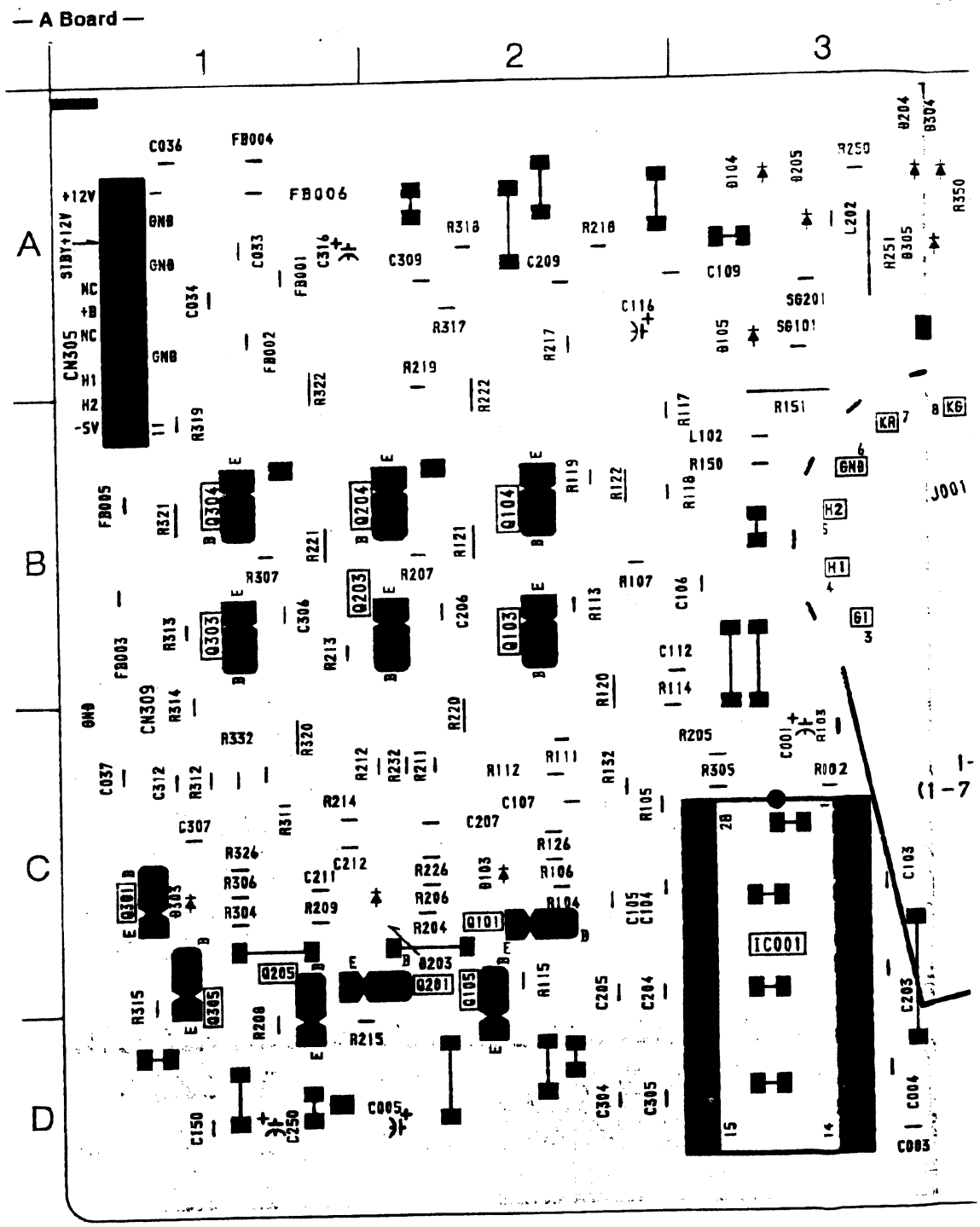
• A BOARD

IC	
IC001	C – 3
IC002	A – 5
IC003	B – 5
IC004	C – 5

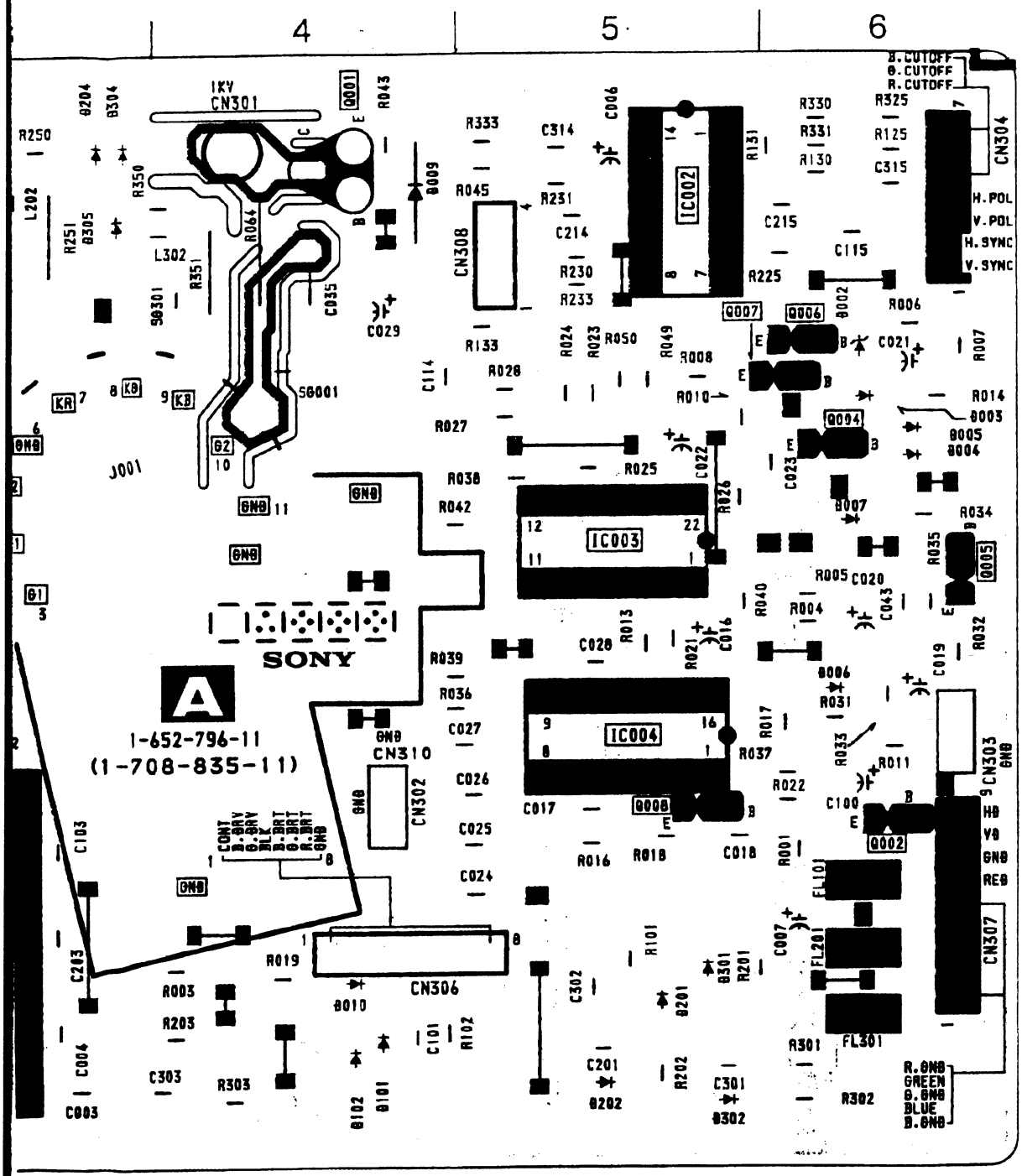
TRANSISTOR	
Q001	A – 4
Q002	C – 6
Q004	B – 6
Q005	B – 6
Q006	A – 6
Q007	B – 6
Q008	C – 5
Q101	C – 2
Q103	B – 2
Q104	B – 2
Q105	C – 2
Q201	C – 2
Q203	B – 2
Q204	B – 2
Q205	C – 1
Q301	C – 1
Q303	B – 1
Q304	B – 1
Q305	C – 1

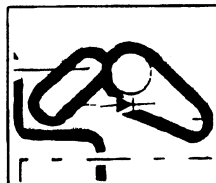
DIODE	
D002	B – 6
D003	B – 6
D004	B – 6
D005	B – 6
D006	C – 6
D007	B – 6
D009	A – 4
D010	D – 4
D101	D – 4
D102	D – 4
D103	C – 2
D104	A – 3
D105	A – 3
D201	D – 5
D202	D – 5
D203	C – 2
D204	A – 3
D205	A – 3
D301	D – 5
D302	D – 5
D303	C – 1
D304	A – 3
D305	A – 3

— A Board —



DEO]

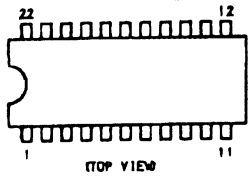




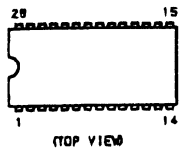
NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

5-5. SEMICONDUCTORS

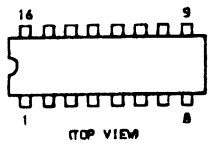
CXA1616S



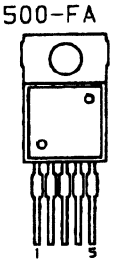
CXA1779P



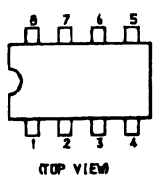
HD74HC123AP



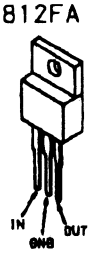
LA6500-FA



NJM2903D
NJM4558D-D
μPC393C



NUM7805FA
NJM7812FA



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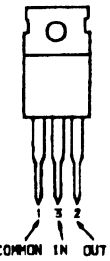

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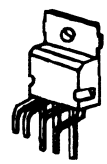

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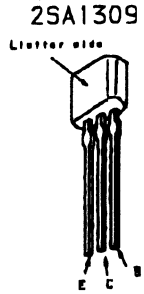
2SA1175-HFE
2SA1309



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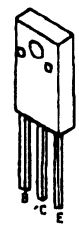

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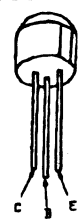
2SC2610BK

2SC2785-HFE
2SC3311A



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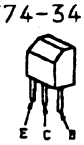

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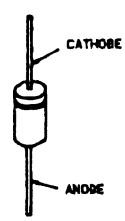
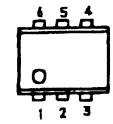


FE3D

PC111YS



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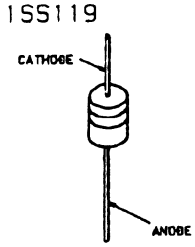
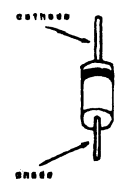
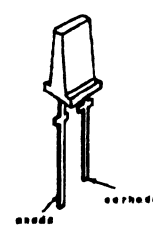
RD13ES-B3
RD15ES-B2
RD15ES-B3
RD18ES-B2
RD27ES-B2
RD36ES-B2
RD4.7ES-B2
RD5.1ES-B2
RD6.2ES-B2
RD8.2ES-B3
1SS119



SB340



SEL1422G
SEL1922D



SECTION 6
EXPLODED VIEWES

- Items with no part number and no description are not stocked because thy are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

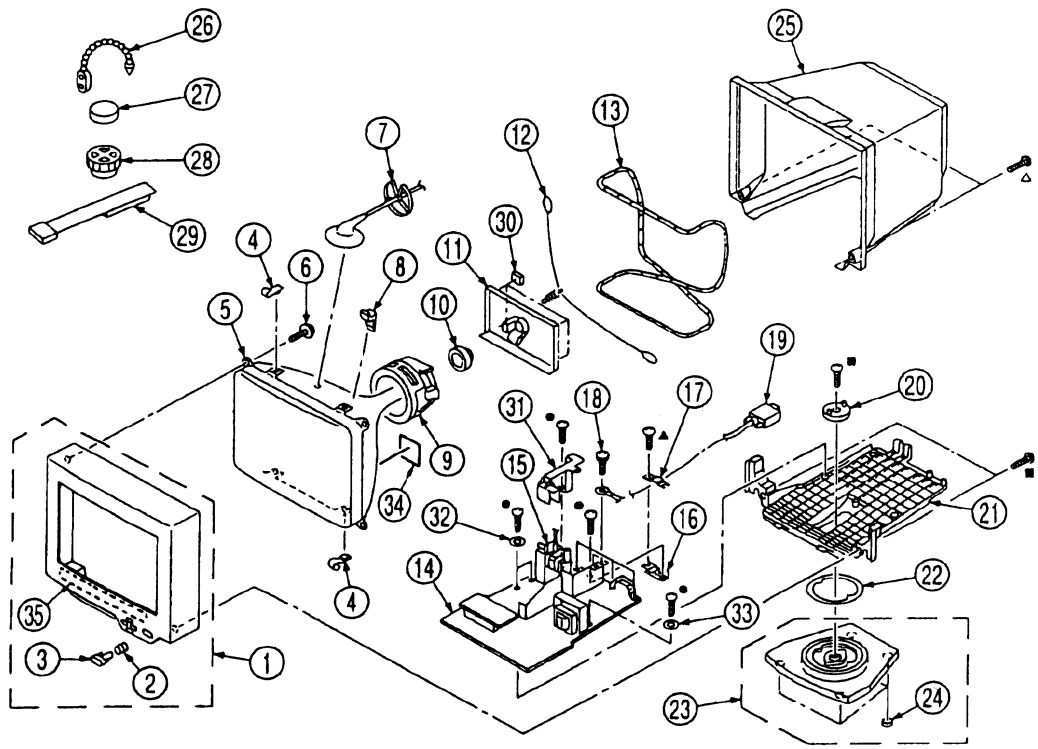
NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

6-1. CHASSIS

●	7-685-648-79	SCREW +BVTP 3X12
■	7-685-663-14	SCREW +BVTP 4X16
△	7-685-663-79	SCREW +BVTP 4X16
▲	7-682-561-04	SCREW +BVTP 4X8



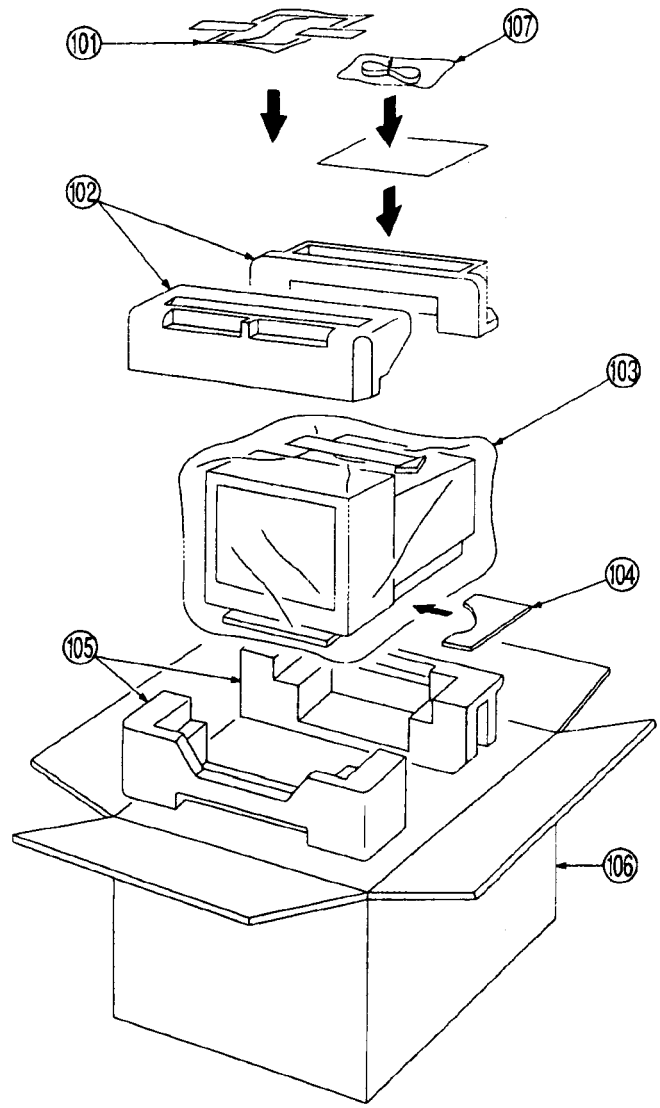
REF.NO.	PART NO.	DESCRIPTION	REMARK
1	X-4032-050-1	BEZEL ASSY	2, 3, 35
2	4-045-116-01	BUTTON, POWER	
3	3-571-801-01	SPRING, COMPRESSION	
4	4-045-123-01	HOLDER, DEGAUSSING COIL	
5	⚠8-734-824-05	PICTURE TUBE (M36LDJ15X)	
6	4-365-808-01	SCREW (5), TAPPING	
7	*3-704-372-01	HOLDER, HV CABLE	
8	3-703-003-00	SPACER, DY	
9	⚠8-451-445-21	DY Y15FRFM2	
10	⚠1-452-756-11	NECK ASSY (NA293)	
11	8-934-888-00	A BOARD, COMPLETE	
12	4-369-318-00	SPRING, TENSION	
13	⚠1-409-799-11	COIL, DEGAUSSING	
14	8-934-891-00	D BOARD, COMPLETE	
15	⚠1-453-168-11	TRANSFORMER ASSY FLYBACK	
16	*4-045-130-01	BRACKET, CABLE	
17	*4-045-131-01	STOPPER, CABLE	
18	4-389-025-01	SCREW (M4X8)(EXT TOOTH WASHER)	

REF.NO.	PART NO.	DESCRIPTION	REMARK
19	1-765-688-11	CABLE, RGB	
20	4-045-121-01	STOPPER (A), STAND	
21	4-045-114-01	COVER, BOTTOM	
22	4-045-122-01	RING, TILT SWIVEL	
23	X-4032-051-0	BASE ASSY, STAND	24
24	4-860-711-00	FELT	
25	4-045-113-01	CABINET	
26	4-308-870-00	CLIP LEAD WIRE	
27	1-452-032-00	MAGNET,DISK 10mmφ	
28	1-452-094-00	MAGNET,ROTATABLE DISK 15mmφ	
29	X-4030-584-1	PERMALLOY ASSY, CORRECTION	
30	*4-046-063-01	CUSHION, (A)	
31	*4-045-773-01	HOLDER, FBT	
32	4-308-030-31	WASHER (φ4), FIVER	
33	4-046-042-01	WASHER, PVC	
34	4-034-778-01	TAPE (B)	
35	4-046-171-01	SPACER	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés per un tramé- et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

6-2. PACKING MATERIALS



REF.NO.	PART NO.	DESCRIPTION	REMARK
101	3-758-954-21	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, SPANISH, ITALIAN)	
102	*4-045-089-01	CUSHION UPPER (ASSY)	
103	*4-380-340-01	BAG, POLYETHYLENE	
104	*4-045-088-01	PAT, TILT FIXED	
105	*4-045-090-01	CUSHION (LOWER) (ASSY)	
106	*4-045-084-01	INDIVIDUAL CARTON	
107	⚠1-765-718-11	CORD SET, POWER	10A/125V

SECTION 7
ELECTRICAL PARTS LIST

A

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

The components inentified by ⧓ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiatin.Should replacement be required, replace only with the value originallyused.

- All veriable and adjustable resistors have characteristic curve B,unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

REF.NO.	PART NO.	DESCRIPTION			REMARK
	8-934-888-00	A BOARD, COMPLETE			
	*4-045-124-01	COVER, VIDEO			
	4-382-854-11	SCREW (M3X10), P, SW (+) (Q103, Q104, Q203, Q204, Q303, Q304)			
		<CAPACITOR>			
C001	1-124-126-00	ELECT	47μF	20%	16V
C003	1-137-399-11	FILM	0.1μF	5%	50V
C004	1-137-399-11	FILM	0.1μF	5%	50V
C005	1-124-126-00	ELECT	47μF	20%	16V
C006	1-124-126-00	ELECT	47μF	20%	16V
C007	1-124-925-11	ELECT	2.2μF	20%	50V
C016	1-124-927-11	ELECT	4.7μF	20%	50V
C017	1-102-121-00	CERAMIC	0.0022μF	10%	50V
C018	1-102-110-00	CERAMIC	220pF	10%	50V
C019	1-124-927-11	ELECT	4.7μF	20%	50V
C020	1-124-927-11	ELECT	4.7μF	20%	50V
C021	1-124-126-00	ELECT	47μF	20%	16V
C022	1-104-664-11	ELECT	47μF	20%	25V
C023	1-102-123-00	CERAMIC	0.0033μF	10%	50V
C024	1-136-169-00	FILM	0.22μF	5%	50V
C025	1-136-169-00	FILM	0.22μF	5%	50V
C026	1-137-399-11	FILM	0.1μF	5%	50V
C027	1-136-169-00	FILM	0.22μF	5%	50V
C028	1-101-880-00	CERAMIC	47pF	5%	50V
C029	1-104-666-11	ELECT	220μF	20%	25V
C033	1-162-117-00	CERAMIC	100pF	10%	500V
C034	1-162-318-11	CERAMIC	0.001μF	10%	500V
C035	1-162-134-11	CERAMIC	470pF	10%	2KV
C037	1-102-074-00	CERAMIC	0.001μF	10%	50V
C043	1-102-114-00	CERAMIC	470pF	10%	50V
C100	1-124-903-11	ELECT	1μF	20%	50V
C101	1-137-370-11	FILM	0.01μF	5%	50V
C103	1-137-399-11	FILM	0.1μF	5%	50V
C104	1-137-370-11	FILM	0.01μF	5%	50V
C105	1-137-399-11	FILM	0.1μF	5%	50V
C106	1-107-609-11	CERAMIC	75pF	5%	500V
C107	1-101-880-00	CERAMIC	47pF	5%	50V
C109	1-102-074-00	CERAMIC	0.001μF	10%	50V
C112	1-102-074-00	CERAMIC	0.001μF	10%	50V
C114	1-126-320-11	ELECT	10μF	20%	16V
C115	1-137-399-11	FILM	0.1μF	5%	50V
C116	1-104-806-51	ELECT	10μF	20%	160V
C150	1-137-370-11	FILM	0.01μF	5%	50V
C201	1-137-370-11	FILM	0.01μF	5%	50V
C203	1-137-399-11	FILM	0.1μF	5%	50V
C204	1-137-370-11	FILM	0.01μF	5%	50V
C205	1-137-399-11	FILM	0.1μF	5%	50V
C206	1-107-608-11	CERAMIC	68pF	5%	500V
C207	1-102-965-00	CERAMIC	39pF	5%	50V
C209	1-102-074-00	CERAMIC	0.001μF	10%	50V
C211	1-137-399-11	FILM	0.1μF	5%	50V
C212	1-102-074-00	CERAMIC	0.001μF	10%	50V
C214	1-126-320-11	ELECT	10μF	20%	16V
C215	1-137-399-11	FILM	0.1μF	5%	50V
C250	1-124-903-11	ELECT	1μF	20%	50V
C301	1-137-370-11	FILM	0.01μF	5%	50V
C302	1-137-399-11	FILM	0.1μF	5%	50V
C303	1-137-399-11	FILM	0.1μF	5%	50V
C304	1-137-370-11	FILM	0.01μF	5%	50V
C305	1-137-399-11	FILM	0.1μF	5%	50V
C306	1-107-608-11	CERAMIC	68pF	5%	500V
C307	1-101-880-00	CERAMIC	47pF	5%	50V
C309	1-102-074-00	CERAMIC	0.001μF	10%	50V
C312	1-102-074-00	CERAMIC	0.001μF	10%	50V
C314	1-126-320-11	ELECT	10μF	20%	16V
C315	1-137-399-11	FILM	0.1μF	5%	50V
C316	1-104-806-51	ELECT	10μF	20%	160V
		<CONNECTOR>			
CN302	1-695-915-11	TAB (CONTACT)			
CN303	1-695-915-11	TAB (CONTACT)			
CN304	*1-564-510-11	PLUG, CONNECTOR 7P			
CN305	*1-564-514-11	PLUG, CONNECTOR 11P			
CN306	*1-564-511-11	PLUG, CONNECTOR 8P			
CN307	*1-564-512-11	PLUG, CONNECTOR 9P			
		<DIODE>			
D002	8-719-109-85	DIODE RD5.1ESB2			
D003	8-719-911-19	DIODE 1SS119			
D004	8-719-911-19	DIODE 1SS119			
D005	8-719-911-19	DIODE 1SS119			

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

A

REF.NO.	PART NO.	DESCRIPTION	REMARK
D006	8-719-911-19	DIODE 1SS119	
D007	8-719-911-19	DIODE 1SS119	
D009	8-719-908-03	DIODE GP08D	
D010	8-719-911-19	DIODE 1SS119	
D101	8-719-911-19	DIODE 1SS119	
D102	8-719-911-19	DIODE 1SS119	
D103	8-719-911-19	DIODE 1SS119	
D104	8-719-970-83	DIODE HSS82	
D105	8-719-970-83	DIODE HSS82	
D201	8-719-911-19	DIODE 1SS119	
D202	8-719-911-19	DIODE 1SS119	
D203	8-719-911-19	DIODE 1SS119	
D204	8-719-970-83	DIODE HSS82	
D205	8-719-970-83	DIODE HSS82	
D301	8-719-911-19	DIODE 1SS119	
D302	8-719-911-19	DIODE 1SS119	
D303	8-719-911-19	DIODE 1SS119	
D304	8-719-970-83	DIODE HSS82	
D305	8-719-970-83	DIODE HSS82	
		<FERRITE BEAD>	
FB001	1-412-911-11	INDUCTOR, FERRITE BEAD	
FB002	1-412-911-11	INDUCTOR, FERRITE BEAD	
FB003	1-412-911-11	INDUCTOR, FERRITE BEAD	
FB004	1-412-911-11	INDUCTOR, FERRITE BEAD	
FB006	1-412-911-11	INDUCTOR, FERRITE BEAD	
		<FILTER>	
FL101	1-239-973-11	FILTER, EMI	
FL201	1-239-973-11	FILTER, EMI	
FL301	1-239-973-11	FILTER, EMI	
		<IC>	
IC001	8-752-070-09	IC CXA1779P	
IC002	8-759-711-28	IC NJM2058D	
IC003	8-752-057-43	IC CXA1616S	
IC004	8-759-054-26	IC HD74HC123AP	
		<JACK>	
J001	⚠1-251-204-11	SOCKET, PICTURE TUBE	
		<COIL>	
L102	1-414-142-11	INDUCTOR 1μH	
L202	1-414-142-11	INDUCTOR 1μH	
L302	1-414-142-11	INDUCTOR 1μH	
		<TRANSISTOR>	
Q001	8-729-020-07	TRANSISTOR 2SC4686A(LBSONY)	
Q002	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q004	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q005	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q006	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q007	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q008	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q101	8-729-805-11	TRANSISTOR 2SC3504-E-AE	
Q103	8-729-019-70	TRANSISTOR 2SC3955-DE	
Q104	8-729-823-07	TRANSISTOR 2SA1540-DE	
Q105	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q201	8-729-805-11	TRANSISTOR 2SC3504-E-AE	
Q203	8-729-019-70	TRANSISTOR 2SC3955-DE	
Q204	8-729-823-07	TRANSISTOR 2SA1540-DE	
Q205	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q301	8-729-805-11	TRANSISTOR 2SC3504-E-AE	
Q303	8-729-019-70	TRANSISTOR 2SC3955-DE	
Q304	8-729-823-07	TRANSISTOR 2SA1540-DE	
Q305	8-729-119-78	TRANSISTOR 2SC2785-HFE	
		<RESISTOR>	
R001	1-249-417-11	CARBON 1K 5% 1/4W	
R002	1-215-437-00	METAL 4.7K 1% 1/4W	
R003	1-249-441-11	CARBON 100K 5% 1/4W	
R004	1-249-429-11	CARBON 10K 5% 1/4W	
R005	1-249-417-11	CARBON 1K 5% 1/4W	
R006	1-249-415-11	CARBON 680 5% 1/4W	
R007	1-249-415-11	CARBON 680 5% 1/4W	
R008	1-249-433-11	CARBON 22K 5% 1/4W	
R010	1-249-433-11	CARBON 22K 5% 1/4W	
R011	1-249-429-11	CARBON 10K 5% 1/4W	
R013	1-249-421-11	CARBON 2.2K 5% 1/4W	
R014	1-249-421-11	CARBON 2.2K 5% 1/4W	
R016	1-247-899-11	CARBON 680K 5% 1/4W	
R017	1-247-899-11	CARBON 680K 5% 1/4W	
R018	1-249-429-11	CARBON 10K 5% 1/4W	
R019	1-249-413-11	CARBON 470 5% 1/4W	
R021	1-249-429-11	CARBON 10K 5% 1/4W	
R022	1-249-429-11	CARBON 10K 5% 1/4W	
R023	1-249-421-11	CARBON 2.2K 5% 1/4W	
R024	1-249-421-11	CARBON 2.2K 5% 1/4W	
R025	1-249-421-11	CARBON 2.2K 5% 1/4W	
R026	1-249-421-11	CARBON 2.2K 5% 1/4W	
R027	1-249-409-11	CARBON 220 5% 1/4W	
R028	1-249-409-11	CARBON 220 5% 1/4W	
R031	1-249-421-11	CARBON 2.2K 5% 1/4W	
R032	1-249-421-11	CARBON 2.2K 5% 1/4W	
R033	1-247-807-31	CARBON 100 5% 1/4W	
R034	1-249-421-11	CARBON 2.2K 5% 1/4W	
R035	1-249-421-11	CARBON 2.2K 5% 1/4W	
R036	1-249-435-11	CARBON 33K 5% 1/4W	
R037	1-249-413-11	CARBON 470 5% 1/4W	
R038	1-249-429-11	CARBON 10K 5% 1/4W	
R039	1-249-417-11	CARBON 1K 5% 1/4W	
R040	1-249-421-11	CARBON 2.2K 5% 1/4W	
R042	1-249-430-11	CARBON 12K 5% 1/4W	
R043	1-215-453-00	METAL 22K 1% 1/4W	
R045	1-215-445-00	METAL 10K 1% 1/4W	
R049	1-247-807-31	CARBON 100 5% 1/4W	

A N D

REF.NO.	PART NO.	DESCRIPTION				REMARK
R050	1-247-807-31	CARBON	100	5%	1/4W	
R064	1-202-830-00	SOLID	10K	20%	1/2W	
R101	1-215-382-00	METAL	24	1%	1/4W	
R102	1-215-390-00	METAL	51	1%	1/4W	
R103	1-215-447-00	METAL	12K	1%	1/4W	
R104	1-249-401-11	CARBON	47	5%	1/4W	
R105	1-249-441-11	CARBON	100K	5%	1/4W	
R106	1-249-414-11	CARBON	560	5%	1/4W	
R107	1-249-397-11	CARBON	22	5%	1/4W	F
R111	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R112	1-249-399-11	CARBON	33	5%	1/4W	
R113	1-249-400-11	CARBON	39	5%	1/4W	F
R114	1-249-391-11	CARBON	6.8	5%	1/4W	
R115	1-249-409-11	CARBON	220	5%	1/4W	
R117	1-249-391-11	CARBON	6.8	5%	1/4W	
R118	1-249-401-11	CARBON	47	5%	1/4W	F
R119	1-249-414-11	CARBON	560	5%	1/4W	F
R120	1-215-878-00	METAL OXIDE	33K	5%	1W	F
R121	1-216-443-11	METAL OXIDE	56K	5%	1W	F
R122	1-215-878-00	METAL OXIDE	33K	5%	1W	F
R125	1-249-441-11	CARBON	100K	5%	1/4W	
R126	1-249-414-11	CARBON	560	5%	1/4W	
R130	1-249-441-11	CARBON	100K	5%	1/4W	
R131	1-249-439-11	CARBON	68K	5%	1/4W	
R132	1-249-414-11	CARBON	560	5%	1/4W	
R133	1-249-409-11	CARBON	220	5%	1/4W	
R150	1-249-413-11	CARBON	470	5%	1/4W	
R151	1-247-739-11	CARBON	100	5%	1/2W	F
R201	1-215-382-00	METAL	24	1%	1/4W	
R202	1-215-390-00	METAL	51	1%	1/4W	
R203	1-249-441-11	CARBON	100K	5%	1/4W	
R204	1-249-401-11	CARBON	47	5%	1/4W	
R205	1-249-441-11	CARBON	100K	5%	1/4W	
R206	1-249-414-11	CARBON	560	5%	1/4W	
R207	1-249-400-11	CARBON	39	5%	1/4W	F
R208	1-249-419-11	CARBON	1.5K	5%	1/4W	
R209	1-249-408-11	CARBON	180	5%	1/4W	
R211	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R212	1-249-397-11	CARBON	22	5%	1/4W	
R213	1-249-400-11	CARBON	39	5%	1/4W	F
R214	1-249-391-11	CARBON	6.8	5%	1/4W	
R215	1-249-409-11	CARBON	220	5%	1/4W	
R217	1-249-391-11	CARBON	6.8	5%	1/4W	
R218	1-249-401-11	CARBON	47	5%	1/4W	F
R219	1-249-414-11	CARBON	560	5%	1/4W	F
R220	1-215-878-00	METAL OXIDE	33K	5%	1W	F
R221	1-216-443-11	METAL OXIDE	56K	5%	1W	F
R222	1-215-878-00	METAL OXIDE	33K	5%	1W	F
R225	1-249-441-11	CARBON	100K	5%	1/4W	
R226	1-249-414-11	CARBON	560	5%	1/4W	
R230	1-249-441-11	CARBON	100K	5%	1/4W	
R231	1-249-439-11	CARBON	68K	5%	1/4W	
R232	1-249-414-11	CARBON	560	5%	1/4W	
R233	1-249-409-11	CARBON	220	5%	1/4W	
R250	1-249-413-11	CARBON	470	5%	1/4W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R251	1-247-739-11	CARBON	100	5%	1/2W	F
R301	1-215-382-00	METAL	24	1%	1/4W	
R302	1-215-390-00	METAL	51	1%	1/4W	
R303	1-249-441-11	CARBON	100K	5%	1/4W	
R304	1-249-401-11	CARBON	47	5%	1/4W	
R305	1-249-441-11	CARBON	100K	5%	1/4W	
R306	1-249-414-11	CARBON	560	5%	1/4W	
R307	1-249-398-11	CARBON	27	5%	1/4W	F
R311	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R312	1-249-398-11	CARBON	27	5%	1/4W	
R313	1-249-400-11	CARBON	39	5%	1/4W	F
R314	1-249-391-11	CARBON	6.8	5%	1/4W	
R315	1-249-409-11	CARBON	220	5%	1/4W	
R317	1-249-391-11	CARBON	6.8	5%	1/4W	
R318	1-249-401-11	CARBON	47	5%	1/4W	F
R319	1-249-414-11	CARBON	560	5%	1/4W	F
R320	1-215-878-00	METAL OXIDE	33K	5%	1W	F
R321	1-216-443-11	METAL OXIDE	56K	5%	1W	F
R322	1-215-878-00	METAL OXIDE	33K	5%	1W	F
R325	1-249-441-11	CARBON	100K	5%	1/4W	
R326	1-249-414-11	CARBON	560	5%	1/4W	
R330	1-249-441-11	CARBON	100K	5%	1/4W	
R331	1-249-439-11	CARBON	68K	5%	1/4W	
R332	1-249-414-11	CARBON	560	5%	1/4W	
R333	1-249-409-11	CARBON	220	5%	1/4W	
R350	1-249-413-11	CARBON	470	5%	1/4W	
R351	1-247-739-11	CARBON	100	5%	1/2W	F

<SPARK GAP>

SG001	1-519-422-11	GAP, SPARK
SG101	1-519-504-11	GAP, DISCHARGE
SG201	1-519-504-11	GAP, DISCHARGE
SG301	1-519-504-11	GAP, DISCHARGE

1-589-667-11 CONTROL PACK (N BOARD)

8-934-891-00 D BOARD, COMPLETE

	1-533-223-11	HOLDER, FUSE (F601)
	2-832-002-00	BUSHING, INSULATING
	4-034-094-01	SHEET, INSULATOR (Q510)
*	4-043-990-01	HEAT SINK (D601)
	4-043-999-01	SHEET, INSULATING (IC605)
	4-045-132-01	HOLDER (A), LED (D1806, D1807)
	4-045-133-01	HOLDER (B), LED (D1803, D1804, D1805)
*	4-045-690-01	SPRING, IC (IC605)
	4-382-854-11	SCREW (M3X10), P, SW (+) (Q503, Q507, Q510, Q522, IC502, IC504, IC512, D501, D601)
	7-685-646-79	SCREW +BVTP 3X8 (IC605 HOLDER)

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D

REF.NO.	PART NO.	DESCRIPTION			REMARK
	<CAPACITOR>.				
C029	1-104-665-11	ELECT	100µF	20%	25V
C070	1-137-372-11	FILM	0.022µF	5%	50V
C071	1-137-399-11	FILM	0.1µF	5%	50V
C072	1-130-489-00	FILM	0.033µF	5%	50V
C073	1-101-005-00	CERAMIC	0.022µF		50V
C074	1-107-584-11	CERAMIC	4pF	0.25pF	500V
C075	1-107-584-11	CERAMIC	4pF	0.25pF	500V
C076	1-102-816-00	CERAMIC	120pF	5%	50V
C077	1-164-281-11	CERAMIC	0.001µF		2KV
C078	1-126-320-11	ELECT	10µF	20%	16V
C079	1-110-400-91	CAP, CERAMIC			
C401	1-106-220-00	MYLAR	0.1µF	10%	100V
C402	1-137-370-11	FILM	0.01µF	5%	50V
C403	1-129-702-00	FILM	0.001µF	10%	630V
C404	1-136-601-11	FILM	0.01µF	10%	630V
C405	1-136-173-00	FILM	0.47µF	5%	50V
C406	1-137-375-11	FILM	0.068µF	5%	50V
C407	1-126-964-11	ELECT	10µF	20%	50V
C408	1-126-964-11	ELECT	10µF	20%	50V
C409	1-124-903-11	ELECT	1µF	20%	50V
C501	1-104-664-11	ELECT	47µF	20%	25V
C502	1-104-665-11	ELECT	100µF	20%	25V
C503	1-124-668-11	ELECT	2.2µF	20%	160V
C504	1-104-664-11	ELECT	47µF	20%	25V
C505	1-107-974-11	CERAMIC	47pF	5%	2KV
C509 ⚠	1-137-374-91	FILM	0.047µF	5%	50V
C510	1-104-665-11	ELECT	100µF	20%	25V
C511	1-104-665-11	ELECT	100µF	20%	25V
C513	1-106-367-00	MYLAR	0.01µF	10%	100V
C514	1-101-006-00	CERAMIC	0.047µF		50V
C515	1-106-228-00	MYLAR	0.22µF	10%	100V
C516	1-137-399-11	FILM	0.1µF	5%	50V
C517	1-128-226-11	ELECT	220µF	20%	35V
C518	1-102-002-00	CERAMIC	680pF	10%	500V
C519	1-101-006-00	CERAMIC	0.047µF		50V
C520	1-124-557-11	ELECT	1000µF	20%	25V
C521	1-126-376-11	ELECT	470µF	20%	25V
C522	1-101-006-00	CERAMIC	0.047µF		50V
C523	1-126-947-11	ELECT	47µF	20%	10V
C524	1-124-903-11	ELECT	1µF	20%	50V
C525	1-124-902-00	ELECT	0.47µF	20%	50V
C526	1-136-169-00	FILM	0.22µF	5%	50V
C527	1-162-117-00	CERAMIC	100pF	10%	500V
C528	1-137-399-11	FILM	0.1µF	5%	50V
C532	1-106-361-00	MYLAR	0.0056µF	99%	200V
C533	1-101-821-00	CERAMIC	0.0022µF		500V
C540	1-136-065-00	FILM	0.0027µF	3%	2KV
C541	1-109-997-11	FILM	4300pF	3%	1.8K
C542	1-137-368-11	FILM	0.0047µF	5%	50V
C543	1-102-973-00	CERAMIC	100pF	5%	50V
C544	1-137-364-11	FILM	0.001µF	5%	50V
C545	1-126-967-11	ELECT	47µF	20%	50V
C547	1-137-399-11	FILM	0.1µF	5%	50V
C548	1-136-175-00	FILM	0.68µF	5%	50V
C549	1-106-391-12	MYLAR	0.1µF	10%	200V
C550	1-109-960-11	FILM	0.43µF	5%	400V
C551	1-104-665-11	ELECT	100µF	20%	25V
C552	1-104-665-11	ELECT	100µF	20%	25V
C562	1-109-945-11	FILM	0.18µF	5%	200V
C563	1-101-361-00	CERAMIC	150pF	5%	50V
C565	1-136-244-11	FILM	0.1µF	5%	50V
C566	1-136-169-00	FILM	0.22µF	5%	50V
C567	1-109-946-11	FILM	0.3µF	5%	200V
C569	1-137-370-11	FILM	0.01µF	5%	50V
C570	1-109-947-11	FILM	0.72µF	5%	200V
C571	1-102-980-00	CERAMIC	270pF	5%	50V
C573	1-137-364-11	FILM	0.001µF	5%	50V
C576	1-124-927-11	ELECT	4.7µF	20%	50V
C577	1-102-106-00	CERAMIC	100pF	10%	50V
C578	1-126-952-11	ELECT	1000µF	20%	16V
C579	1-126-935-11	ELECT	470µF	20%	16V
C580	1-137-413-11	FILM	0.0033µF	10%	100V
C581	1-137-399-11	FILM	0.1µF	5%	50V
C582	1-109-991-91	CERAMIC	0.001µF	10%	2KV
C583	1-106-375-12	MYLAR	0.022µF	10%	100V
C585	1-102-002-00	CERAMIC	680pF	10%	500V
C586	1-137-399-11	FILM	0.1µF	5%	50V
C587	1-137-399-11	FILM	0.1µF	5%	50V
C599	1-128-560-11	ELECT	22µF	20%	100V
C601 ⚠	1-104-708-11	FILM	0.47µF	20%	250V
C602 ⚠	1-107-533-11	FILM	1µF	20%	250V
C603 ⚠	1-165-170-51	CERAMIC	0.0047µF	20%	400V
C604 ⚠	1-165-170-51	CERAMIC	0.0047µF	20%	400V
C605	1-126-947-11	ELECT	47µF	20%	10V
C606	1-137-367-11	FILM	0.0033µF	5%	50V
C607	1-137-415-91	FILM	0.0068µF	10%	100V
C608	1-162-815-11	CERAMIC	47pF	5%	500V
C609	1-109-984-11	ELECT	390µF	20%	400V
C610	1-126-803-11	ELECT	47µF	20%	35V
C611	1-125-700-11	ELECT	220µF	20%	200V
C612	1-128-566-11	ELECT	470µF	20%	100V
C613	1-107-955-11	ELECT	100µF	20%	200V
C614	1-128-563-11	ELECT	100µF	20%	100V
C615	1-107-896-11	ELECT	470µF	20%	35V
C616	1-107-896-11	ELECT	470µF	20%	35V
C617	1-107-896-11	ELECT	470µF	20%	35V
C618	1-126-941-11	ELECT	470µF	20%	25V
C619	1-107-913-11	ELECT	470µF	20%	50V
C620	1-137-372-11	FILM	0.022µF	5%	50V
C621	1-130-014-00	FILM	470pF	5%	50V
C622	1-126-951-11	ELECT	470µF	20%	35V
C623	1-137-367-11	FILM	0.0033µF	5%	50V
C624	1-162-116-00	CERAMIC	680pF	10%	2KV
C625	1-107-955-11	ELECT	100µF	20%	200V
C626	1-165-170-11	CERAMIC	0.0047µF	20%	400V
C627	1-102-106-00	CERAMIC	100pF	10%	50V
C628	1-128-577-11	ELECT	0.47µF	20%	100V
C629	1-126-803-11	ELECT	47µF	20%	35V
C630	1-126-233-11	ELECT	22µF	20%	50V

D

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REF.NO.	PART NO.	DESCRIPTION			REMARK
C631	1-128-581-11	ELECT	4.7µF	20%	100V
C632	1-101-880-00	CERAMIC	47pF	5%	50V
C633	1-136-169-00	FILM	0.22µF	5%	50V
C634	1-136-169-00	FILM	0.22µF	5%	50V
C635	1-137-399-11	FILM	0.1µF	5%	50V
C636	1-124-927-11	ELECT	4.7µF	20%	50V
C639	1-137-399-11	FILM	0.1µF	5%	50V
C1801	1-102-112-00	CERAMIC	330pF	10%	50V
C1802	1-107-424-11	CERAMIC	330pF	10%	1KV
		<CONNECTOR>			
CN501	*1-580-798-11	CONNECTOR PIN (DY) 6P			
CN502	*1-564-510-11	PLUG, CONNECTOR 7P			
CN506	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P			
CN507	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P			
CN508	*1-564-511-11	PLUG, CONNECTOR 8P			
CN509	*1-564-507-11	PLUG, CONNECTOR 4P			
CN510	1-695-915-11	TAB (CONTACT)			
CN514	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P			
CN600	⚠ 1-251-227-11	INLET, AC			
CN601	1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P			
CN603	1-695-915-11	TAB (CONTACT)			
CN604	*1-691-134-11	PIN, CONNECTOR (PC BOARD) 2P			
CN605	*1-506-371-00	PIN, CONNECTOR 2P			
		<DIODE>			
D071	8-719-911-19	DIODE 1SS119			
D072	8-719-911-19	DIODE 1SS119			
D075	8-719-911-19	DIODE 1SS119			
D076	8-719-109-81	DIODE RD4.7ESB2			
D077	8-719-109-81	DIODE RD4.7ESB2			
D401	8-719-911-19	DIODE 1SS119			
D402	8-719-970-83	DIODE HSS82			
D403	8-719-970-83	DIODE HSS82			
D501	8-719-049-12	DIODE 5TUZ52			
D502	8-719-979-58	DIODE EGP10D			
D503	8-719-110-17	DIODE RD10ESB2			
D504	8-719-988-11	DIODE FE3D			
D505	8-719-110-17	DIODE RD10ESB2			
D508	8-719-975-77	DIODE SB340			
D513	8-719-970-83	DIODE HSS82			
D514	8-719-970-83	DIODE HSS82			
D515	8-719-979-58	DIODE EGP10D			
D516	8-759-157-40	IC µPC574J			
D517	8-719-110-67	DIODE RD27ESB2			
D518	8-719-911-19	DIODE 1SS119			
D520	8-719-109-81	DIODE RD4.7ESB2			
D522	8-719-911-19	DIODE 1SS119			
D523	8-719-911-19	DIODE 1SS119			
D525	8-719-110-31	DIODE RD12ESB2			
D529	8-719-110-41	DIODE RD15ESB2			
D530	8-719-911-19	DIODE 1SS119			
D531	8-719-970-83	DIODE HSS82			
D532	8-719-970-83	DIODE HSS82			
D533	8-719-911-19	DIODE 1SS119			
D534	8-719-109-93	DIODE RD6.2ESB2			
D535	8-719-911-19	DIODE 1SS119			
D536	8-719-911-19	DIODE 1SS119			
D537	8-719-911-19	DIODE 1SS119			
D538	8-719-911-19	DIODE 1SS119			
D539	8-719-110-17	DIODE RD10ESB2			
D540	8-719-911-19	DIODE 1SS119			
D541	8-719-911-19	DIODE 1SS119			
D542	8-719-911-19	DIODE 1SS119			
D543	8-719-911-19	DIODE 1SS119			
D544	8-719-911-19	DIODE 1SS119			
D557	8-719-109-81	DIODE RD4.7ESB2			
D601	⚠ 8-719-025-88	DIODE GBU4JL-6088			
D602	8-719-300-76	DIODE RH-1A			
D603	8-719-302-43	DIODE EL1Z			
D604	8-719-302-43	DIODE EL1Z			
D605	8-719-048-62	DIODE UF3ML-6505			
D606	8-719-979-58	DIODE EGP10D			
D607	8-719-979-50	DIODE EGP30D			
D608	8-719-979-84	DIODE EGP20DPKG23			
D609	8-719-979-84	DIODE EGP20DPKG23			
D610	8-719-979-58	DIODE EGP10D			
D611	8-719-911-19	DIODE 1SS119			
D612	8-719-970-83	DIODE HSS82			
D613	8-719-110-03	DIODE RD7.5ESB2			
D614	8-719-911-19	DIODE 1SS119			
D615	8-719-911-19	DIODE 1SS119			
D616	8-719-911-19	DIODE 1SS119			
D617	8-719-110-08	DIODE RD8.2ESB2			
D618	8-719-911-19	DIODE 1SS119			
D619	8-719-911-19	DIODE 1SS119			
D620	8-719-302-43	DIODE EL1Z			
D621	8-719-110-49	DIODE RD18ESB2			
D622	8-719-110-37	DIODE RD13ESB3			
D623	8-719-110-83	DIODE RD36ESB2			
D624	8-719-110-42	DIODE RD15ESB2			
D625	8-719-300-76	DIODE RH-1A			
D627	8-719-911-19	DIODE 1SS119			
D628	8-719-110-67	DIODE RD27ESB2			
D1803	8-719-311-90	DIODE SEL1922D-C			
D1804	8-719-311-90	DIODE SEL1922D-C			
D1805	8-719-311-90	DIODE SEL1922D-C			
D1806	8-719-311-90	DIODE SEL1922D-C			
D1807	8-719-311-15	DIODE SEL1422G-C,D			
D1808	8-719-311-90	DIODE SEL1922D-C			
		<FUSE>			
F601	⚠ 1-576-231-21	FUSE (H.B.C.) 4A/250V			
		<FERRITE BEAD>			
FB501	1-410-396-41	FERRITE BEAD INDUCTOR 0.5µH			

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REF.NO.	PART NO.	DESCRIPTION	REMARK
FB502	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH	
FB601	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH	
FB602	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH	
FB603	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH	
		<TERMINAL>	
GT002	*1-537-738-21	TERMINAL, EARTH	
		<IC>	
IC005	8-759-705-58	IC NJM4558D-D	
IC400	8-759-803-42	IC LA6500-FA	
IC501	8-759-701-75	IC NJM7805FA	
IC502	8-759-506-12	IC PQ12RF1	
IC503	8-759-729-03	IC NJM2903D	
IC504	8-759-980-58	IC TDA8172	
IC505	8-759-103-93	IC µPC393C	
IC506⚠	8-759-275-27	IC µPC5023CS-071	
IC512	8-759-701-84	IC NJM7905FA	
IC513	8-759-231-58	IC TA7812S	
IC601	8-749-923-50	PHOTO COUPLER PC111YS	
IC603	8-749-921-86	IC SE-140N	
IC605	8-759-183-88	IC STR-S6708	
		<COIL>	
L501	1-412-550-11	INDUCTOR 1.2mH	
L502	1-412-545-11	INDUCTOR 470µH	
L503	1-412-545-11	INDUCTOR 470µH	
L504	1-459-104-00	COIL, DUST CORE	
L505	1-412-531-25	INDUCTOR 33µH	
L506	1-459-104-00	COIL, DUST CORE	
L507	1-412-531-25	INDUCTOR 33µH	
L513	1-409-803-11	COIL, HORIZONTAL LINEARITY	
L601	1-412-537-31	INDUCTOR 100µH	
L605	1-412-537-31	INDUCTOR 100µH	
L606	1-412-537-31	INDUCTOR 100µH	
L607	1-412-537-31	INDUCTOR 100µH	
L608	1-412-537-31	INDUCTOR 100µH	
		<FILTER>	
LF601⚠	1-424-677-11	TRANSFORMER, LINE FILTER	
		<IC LINK>	
PS602⚠	1-532-839-21	LINK, IC 1A	
		<TRANSISTOR>	
Q401	8-729-326-10	TRANSISTOR 2SC2610BK	
Q402	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q502	8-729-931-45	TRANSISTOR IRF614	
Q503	8-729-019-52	TRANSISTOR 2SJ307	
Q506	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q507	8-729-027-95	TRANSISTOR 2SC5129	
Q510	8-729-027-82	TRANSISTOR IRFPE40LF20	
Q512	8-729-027-14	TRANSISTOR 2SK1904	
Q513	8-729-027-14	TRANSISTOR 2SK1904	
Q514	8-729-027-14	TRANSISTOR 2SK1904	
Q515	8-729-900-63	TRANSISTOR DTA124ES	
Q516	8-729-900-36	TRANSISTOR DTC124ES	
Q517	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q518	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q522	8-729-028-35	TRANSISTOR 2SD1276B	
Q523	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q524	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q525	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q526	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q527	8-729-023-28	TRANSISTOR 2SD1640Q	
Q529	8-729-386-12	TRANSISTOR 2SB861-C	
Q530	8-729-140-96	TRANSISTOR 2SD774-34	
Q531	8-729-900-36	TRANSISTOR DTC124ES	
Q601	8-729-142-46	TRANSISTOR 2SC2001-LK	
Q602	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q603	8-729-140-96	TRANSISTOR 2SD774-34	
Q604	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q605	8-729-023-28	TRANSISTOR 2SD1640Q	
Q606	8-729-900-36	TRANSISTOR DTC124ES	
Q607	8-729-023-28	TRANSISTOR 2SD1640Q	
Q701	8-729-900-80	TRANSISTOR DTC114ES	
Q1801	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1802	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1803	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1804	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1805	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1806	8-729-119-78	TRANSISTOR 2SC2785-HFE	
		<RESISTOR>	
R019	1-249-412-11	CARBON 390 5% 1/4W	
R070	1-215-391-00	METAL 56 1% 1/4W	
R071	1-249-438-11	CARBON 56K 5% 1/4W	
R072	1-249-421-11	CARBON 2.2K 5% 1/4W	
R073	1-215-453-00	METAL 22K 1% 1/4W	
R074	1-249-431-11	CARBON 15K 5% 1/4W	
R075	1-202-731-00	SOLID 10M 20% 1/2W	
R077	1-215-467-00	METAL 82K 1% 1/4W	
R078	1-249-417-11	CARBON 1K 5% 1/4W	F
R083	1-215-463-00	METAL 56K 1% 1/4W	
R401	1-249-429-11	CARBON 10K 5% 1/4W	
R402	1-249-433-11	CARBON 22K 5% 1/4W	
R403	1-249-441-11	CARBON 100K 5% 1/4W	
R404	1-247-897-11	CARBON 560K 5% 1/4W	
R406	1-215-447-00	METAL 12K 1% 1/4W	
R407	1-215-449-00	METAL 15K 1% 1/4W	
R408	1-249-383-11	CARBON 1.5 5% 1/4W	F
R409	1-215-429-00	METAL 2.2K 1% 1/4W	
R410	1-215-883-11	METAL OXIDE 33 5% 2W	F
R411	1-215-460-00	METAL 43K 1% 1/4W	

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The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R412	1-215-439-00	METAL	5.6K	1%	1/4W	
R413	1-249-377-11	CARBON	0.47	5%	1/4W	F
R414	1-249-377-11	CARBON	0.47	5%	1/4W	F
R415	1-215-459-00	METAL	39K	1%	1/4W	
R417	1-215-471-00	METAL	120K	1%	1/4W	
R418	1-215-439-00	METAL	5.6K	1%	1/4W	
R419	1-249-421-11	CARBON	2.2K	5%	1/4W	
R421	1-202-963-11	METAL	1	1%	1W	
R422	1-215-866-11	METAL OXIDE	330	5%	1W	F
R423	1-215-439-00	METAL	5.6K	1%	1/4W	
R424	1-215-455-00	METAL	27K	1%	1/4W	
R425	1-249-429-11	CARBON	10K	5%	1/4W	
R426	1-249-387-11	CARBON	3.3	5%	1/4W	F
R427	1-249-417-11	CARBON	1K	5%	1/4W	
R428	1-249-421-11	CARBON	2.2K	5%	1/4W	
R429	1-249-437-11	CARBON	47K	5%	1/4W	
R430	1-249-437-11	CARBON	47K	5%	1/4W	
R436	1-216-393-00	METAL OXIDE	2.2	5%	3W	F
R437	1-249-401-11	CARBON	47	5%	1/4W	
R441	1-249-405-11	CARBON	100	5%	1/4W	F
R445	1-215-896-00	METAL OXIDE	4.7K	5%	2W	F
R446	1-249-385-11	CARBON	2.2	5%	1/4W	F
R451	1-216-474-71	METAL OXIDE	82	5%	3W	F
R452	1-215-443-00	METAL	8.2K	1%	1/4W	
R453	1-216-474-11	METAL OXIDE	82	5%	3W	F
R455	1-216-393-00	METAL OXIDE	2.2	5%	3W	F
R456	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R457 ⚠	1-215-469-91	METAL	100K	1%	1/4W	
R458	1-249-405-11	CARBON	100	5%	1/4W	F
R459	1-215-921-11	METAL OXIDE	4.7K	5%	3W	F
R462	1-215-451-00	METAL	18K	1%	1/4W	
R465	1-215-429-00	METAL	2.2K	1%	1/4W	
R469	1-215-465-00	METAL	68K	1%	1/4W	
R472	1-249-389-11	CARBON	4.7	5%	1/4W	F
R473	1-215-469-00	METAL	100K	1%	1/4W	
R474	1-215-493-00	METAL	1M	1%	1/4W	
R475	1-215-421-00	METAL	1K	1%	1/4W	
R480	1-249-397-11	CARBON	22	5%	1/4W	F
R481	1-249-413-11	CARBON	470	5%	1/4W	
R482	1-249-421-11	CARBON	2.2K	5%	1/4W	
R484	1-249-421-11	CARBON	2.2K	5%	1/4W	
R485	1-215-427-00	METAL	1.8K	1%	1/4W	
R486	1-215-905-11	METAL OXIDE	10	5%	3W	F
R487	1-249-429-11	CARBON	10K	5%	1/4W	
R488	1-249-417-11	CARBON	1K	5%	1/4W	
R490	1-249-417-11	CARBON	1K	5%	1/4W	F
R493	1-216-477-11	METAL OXIDE	270	5%	3W	F
R494	1-215-453-00	METAL	22K	1%	1/4W	
R495	1-215-463-00	METAL	56K	1%	1/4W	
R496 ⚠	1-215-451-91	METAL	18K	1%	1/4W	
R497	1-249-417-11	CARBON	1K	5%	1/4W	F
R498	1-249-435-11	CARBON	33K	5%	1/4W	
R499	1-215-457-00	METAL	33K	1%	1/4W	
R502	1-249-417-11	CARBON	1K	5%	1/4W	F
R503	1-249-437-11	CARBON	47K	5%	1/4W	
R504	1-249-437-11	CARBON	47K	5%	1/4W	
R507	1-249-437-11	CARBON	47K	5%	1/4W	
R508	1-215-469-00	METAL	100K	1%	1/4W	
R509	1-215-481-00	METAL	330K	1%	1/4W	
R511	1-247-887-00	CARBON	220K	5%	1/4W	
R512	1-249-438-11	CARBON	56K	5%	1/4W	
R516	1-215-443-00	METAL	8.2K	1%	1/4W	
R517	1-215-489-00	METAL	680K	1%	1/4W	
R518	1-215-475-00	METAL	180K	1%	1/4W	
R520	1-215-443-00	METAL	8.2K	1%	1/4W	
R521	1-215-867-00	METAL OXIDE	470	5%	1W	F
R523	1-249-441-11	CARBON	100K	5%	1/4W	
R524	1-216-447-00	METAL OXIDE	27	5%	2W	F
R525	1-215-463-00	METAL	56K	1%	1/4W	
R526	1-215-467-00	METAL	82K	1%	1/4W	
R527	1-215-457-00	METAL	33K	1%	1/4W	
R528	1-215-447-00	METAL	12K	1%	1/4W	
R529	1-249-415-11	CARBON	680	5%	1/4W	
R530	1-247-717-11	CARBON	2.2K	5%	1/4W	F
R565	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R566	1-215-912-11	METAL OXIDE	150	5%	3W	F
R567	1-215-908-00	METAL OXIDE	33	5%	3W	F
R568	1-216-422-11	METAL OXIDE	18	5%	1W	F
R569	1-215-862-11	METAL OXIDE	68	5%	1W	F
R571	1-249-431-11	CARBON	15K	5%	1/4W	
R572	1-249-429-11	CARBON	10K	5%	1/4W	
R573	1-247-887-00	CARBON	220K	5%	1/4W	
R574	1-247-887-00	CARBON	220K	5%	1/4W	
R575	1-249-441-11	CARBON	100K	5%	1/4W	
R576	1-249-429-11	CARBON	10K	5%	1/4W	
R577	1-249-427-11	CARBON	6.8K	5%	1/4W	
R578	1-249-417-11	CARBON	1K	5%	1/4W	
R579	1-249-421-11	CARBON	2.2K	5%	1/4W	
R601 ⚠	1-202-882-91	SOLID	560K	20%	1/2W	
R602	1-215-925-11	METAL OXIDE	22K	5%	3W	F
R603	1-249-377-11	CARBON	0.47	5%	1/4W	F
R604	1-211-874-11	FUSIBLE	0.12	10%	1/2W	
R605	1-211-874-11	FUSIBLE	0.12	10%	1/2W	
R606	1-260-288-11	CARBON	0.47	5%	1/2W	
R607	1-249-377-11	CARBON	0.47	5%	1/4W	F
R608	1-215-451-00	METAL	18K	1%	1/4W	
R609	1-216-370-11	METAL OXIDE	1.2	5%	2W	F
R610	1-249-429-11	CARBON	10K	5%	1/4W	
R611	1-249-419-11	CARBON	1.5K	5%	1/4W	
R612	1-249-381-11	CARBON	1	5%	1/4W	F
R613	1-207-642-00	WIREWOUND	0.15	10%	3W	F
R614	1-216-379-11	METAL OXIDE	6.8	5%	2W	F
R615	1-249-421-11	CARBON	2.2K	5%	1/4W	
R616	1-249-420-11	CARBON	1.8K	5%	1/4W	
R617	1-215-927-00	METAL OXIDE	47K	5%	3W	F
R618	1-215-927-00	METAL OXIDE	47K	5%	3W	F
R619	1-249-421-11	CARBON	2.2K	5%	1/4W	
R620	1-249-441-11	CARBON	100K	5%	1/4W	
R622	1-216-378-11	METAL OXIDE	5.6	5%	2W	F
R623	1-247-901-11	CARBON	820K	5%	1/4W	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

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The components inentified by ⧓ in this manual have been carefully factory-selected for eachset in order to satisfy regulations regarding X-ray radiatin. Should replacement be required, replace only with the value originallyused.

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REF.NO.	PART NO.	DESCRIPTION				REMARK
R624	1-247-901-11	CARBON	820K	5%	1/4W	
R627	1-249-429-11	CARBON	10K	5%	1/4W	
R628	1-247-901-11	CARBON	820K	5%	1/4W	
R629	1-215-906-11	METAL OXIDE	15	5%	3W	F
R630	1-215-906-11	METAL OXIDE	15	5%	3W	F
R647	1-249-421-11	CARBON	2.2K	5%	1/4W	
R648	1-249-426-11	CARBON	5.6K	5%	1/4W	
R649	1-249-429-11	CARBON	10K	5%	1/4W	
R650	1-249-429-11	CARBON	10K	5%	1/4W	
R651	1-249-413-11	CARBON	470	5%	1/4W	
R652	1-249-417-11	CARBON	1K	5%	1/4W	
R653	1-249-403-11	CARBON	68	5%	1/4W	F
R654	1-249-408-11	CARBON	180	5%	1/4W	
R655	1-249-429-11	CARBON	10K	5%	1/4W	
R656	1-249-403-11	CARBON	68	5%	1/4W	
R657	1-249-417-11	CARBON	1K	5%	1/4W	
R658	1-249-417-11	CARBON	1K	5%	1/4W	
R659	1-249-441-11	CARBON	100K	5%	1/4W	
R660	1-249-415-11	CARBON	680	5%	1/4W	
R661 ⚠	1-205-781-11	WIREWOUND	1.5	5%	20W	
R662	1-249-441-11	CARBON	100K	5%	1/4W	
R663	1-247-901-11	CARBON	820K	5%	1/4W	
R664	1-249-438-11	CARBON	56K	5%	1/4W	
R665	1-249-377-11	CARBON	0.47	5%	1/4W	F
R666	1-249-377-11	CARBON	0.47	5%	1/4W	F
R667	1-249-377-11	CARBON	0.47	5%	1/4W	F
R668	1-202-933-61	FUSIBLE	0.1	10%	1/2W	F
R669	1-249-437-11	CARBON	47K	5%	1/4W	
R670	1-249-426-11	CARBON	5.6K	5%	1/4W	
R671	1-249-426-11	CARBON	5.6K	5%	1/4W	
R672	1-249-417-11	CARBON	1K	5%	1/4W	
R674	1-249-430-11	CARBON	12K	5%	1/4W	
R675	1-247-807-31	CARBON	100	5%	1/4W	
R676	1-249-441-11	CARBON	100K	5%	1/4W	
R677	1-249-433-11	CARBON	22K	5%	1/4W	
R678	1-249-433-11	CARBON	22K	5%	1/4W	
R679	1-215-453-00	METAL	22K	1%	1/4W	
R680	1-215-453-00	METAL	22K	1%	1/4W	
R681	1-249-426-11	CARBON	5.6K	5%	1/4W	
R1801	1-215-431-00	METAL	2.7K	1%	1/4W	
R1803	1-249-413-11	CARBON	470	5%	1/4W	
R1804	1-249-413-11	CARBON	470	5%	1/4W	
R1805	1-249-413-11	CARBON	470	5%	1/4W	
R1806	1-215-418-00	METAL	750	1%	1/4W	
R1807	1-249-413-11	CARBON	470	5%	1/4W	
R1808	1-249-413-11	CARBON	470	5%	1/4W	
R1809	1-249-413-11	CARBON	470	5%	1/4W	
R1810	1-215-410-00	METAL	360	1%	1/4W	
R1811	1-215-409-00	METAL	330	1%	1/4W	
R1812	1-215-410-00	METAL	360	1%	1/4W	
R1813	1-215-413-00	METAL	470	1%	1/4W	
R1814	1-215-416-00	METAL	620	1%	1/4W	
R1815	1-215-439-00	METAL	5.6K	1%	1/4W	
R1816	1-215-467-00	METAL	82K	1%	1/4W	
R1817	1-215-413-00	METAL	470	1%	1/4W	
R1818	1-215-423-00	METAL	1.2K	1%	1/4W	
R1819	1-215-426-00	METAL	1.6K	1%	1/4W	
R1820	1-215-432-00	METAL	3K	1%	1/4W	
R1821	1-215-413-00	METAL	470	1%	1/4W	
R1822	1-215-431-00	METAL	2.7K	1%	1/4W	
R1823	1-215-410-00	METAL	360	1%	1/4W	
R1824	1-215-409-00	METAL	330	1%	1/4W	
R1825	1-215-410-00	METAL	360	1%	1/4W	
R1826	1-215-413-00	METAL	470	1%	1/4W	
R1827	1-215-416-00	METAL	620	1%	1/4W	
R1828	1-215-418-00	METAL	750	1%	1/4W	
R1829	1-215-423-00	METAL	1.2K	1%	1/4W	
R1830	1-215-426-00	METAL	1.6K	1%	1/4W	
R1831	1-215-432-00	METAL	3K	1%	1/4W	
R1832	1-215-439-00	METAL	5.6K	1%	1/4W	
R1833	1-215-467-00	METAL	82K	1%	1/4W	

<VARIABLE RESISTOR>

⧓RV470 ⚠ 1-241-766-11 RES, ADJ, CERMET 47K
3-710-578-01 COVER, VOLUME, 6 MOLD (RV470)

<RELAY>

RY601 ⚠ 1-515-840-12 RELAY

<SWITCH>

S500 1-572-707-11 SWITCH, LEVER
S1801 1-762-093-11 SWITCH, TACTILE
S1802 1-762-093-11 SWITCH, TACTILE
S1803 1-762-093-11 SWITCH, TACTILE
S1815 1-692-220-11 SWITCH, TACTILE
S1816 1-692-220-11 SWITCH, TACTILE
S1817 1-692-220-11 SWITCH, TACTILE
S1818 1-692-220-11 SWITCH, TACTILE
S1819 1-571-532-21 SWITCH, TACTIL
S1821 1-571-532-21 SWITCH, TACTIL

For Service Manuals
MAURITRON SERVICES
8 Cherry Tree Road, Chinnor
Oxfordshire, OX9 4QY.
Tel (01844) 351694
Fax (01844) 352554
email:- mauritron@dial.pipex.com

<TRANSFORMER>

T071 1-426-793-11 TRANSFORMER, FERRITE (DFT)
T501 ⚠ 1-453-168-11 TRANSFORMER ASSY, FLYBACK
T502 ⚠ 1-426-975-11 TRANSFORMER, CONVERTER (SRT)
T504 1-426-971-11 TRANSFORMER, FERRITE (HDT)
T505 1-423-856-11 TRANSFORMER, FERRITE (HST)

<THERMISTOR>

TH601 ⚠ 1-809-260-11 THERMISTOR, POWER
THP601 ⚠ 1-809-827-11 THERMISTOR, POSITIVE

<VARISTOR>

VA601 ⚠ 1-810-622-11 VARISTOR

Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
		MISCELLANEOUS	
		**********	
	⚠ 1-409-799-11	COIL, DEMAGNETIZATION	
	⚠ 1-452-756-11	NECK ASSY, PICTURE TUBE (NA293)	
	1-765-688-11	CABLE (D-SUB 15P-9P)	
	⚠ 1-765-718-11	CORD SET, POWER	10A/125V
V901	⚠ 8-734-824-05	PICTURE TUBE (M36LDJ15X)	

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